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SEQUENCING LISTING <110> KYOWA HAKKO KOGYO CO., LTD

<111> THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION INTO CARDIOMYOCYTES

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<151> 1999-12-28

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<151> 2000-02-28

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<151> 2000-11-02

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| Val | Arg 50 | Arg | Glu | Gly | Ala | Arg 55 | Gly | Gly | Gly | Arg | Gly 60 | Arg | Gly A | Arg : | lrp |
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| Lys 65 | Gln | Ala | Gly | Arg | Gly 70 | Gly | Gly | Val | Cys | Gly 75 | Arg | Gly . | Arg (| Gly A | Arg 80 |
| Gly | Arg | Gly | Arg | Gly 85 | Arg | Gly | Arg | Gly | Arg 90 | Gly | Arg | Gly | Arg | Gly . 95 | Arg |
| Pro | Pro | Ser | Gly 100 | | Ser | Gly | Leu | Gly 105 | Gly | Asp | Gly | Gly | Gly 110 | Cys | Gly |
| Gly | Gly | Gly 115 | | Gly | Gly | Gly | Gly 120 | Ala | Pro | Arg | Arg | Glu 125 | Pro | Val | Pro |
| | Pro 130 | | Gly | Ser | Ala | Gly 135 | Pro | Gly | Pro | Arg | Gly 140 | Pro | Arg | Ala | Thr |
| Glu 145 | Ser | Gly | Lys | | Met 150 | Asp | Cys | Pro | Ala | Leu 155 | Pro | Pro | Gly | Trp | Lys 160 |
| Lys | | | | 165 | | | Ser | | 170 | | | | | 175 | |
| | | | 180 | | | | Gly | 185 | | | | | 190 | | |
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| | 210 | | | | | 215 | | | | | 220 | | | | |
| 225 | | | | | 230 | | Gln | | | 235 | | | | | 240 |
| | | | | 245 | ; } | | Thr | | 250 |) | | | | 255 | |
| | | | 260 |) | | | | 265 | , i | | | | 270 | | Gln |
| | | 275 | ó | | | | 280 | } | | | | 285 | | | Gln |
| | 290 |) | | | | 29 | 5 | | | | 300 |) | | • | . Glu |
| 30 | u Pro | o Ly: | | | 310 |) | | | | 319 | 5 | | | | Thr 320 |
| Le | u Lei | u Se | r Ala | a Va 32 | | a Sei | r Ala | a Lei | 1 Hi 33 | | r Sei | r Sei | r Ala | 335 | lle S |

| Thr | Gly | | Val 340 | Ser | Ala | Ala | Val | Glu 345 | Lys | Asn | Pro | Ala | 350 | Trp | Leu | |
|------|------------|-------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------|-------|------------|-----|
| Asn | Thr | | | Pro | Leu | Cys | Lys 360 | Ala | Phe | Ile | Val | Thr 365 | Asp | Glu | Asp | |
| | Arg 370 | | Gln | Glu | Glu | Arg 375 | | Gln | Gln | Val | Arg 380 | | Lys | Leu | Glu | |
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| Met | Arg | Ala | His | Pro | Gly | Gly | Gly | Arg | | Cys | Pro | Glu | Gln | Glu | Glu | |
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| ggg | gag | agt | gcg | gcg | ggc | ggc | agc | ggc | gct | ggc | ggc | gac | tcc | gcc | ata | 96 |
| Gly | Glu | Ser | Ala | Ala | Gly | Gly | Ser | Gly | Ala | Gly | Gly | Asp | | Ala | He | |
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| Glu | Gln | Gly | Gly | Gln | Gly | Ser | Ala | Leu | Ala | Pro | Ser | | | Ser | Gly | |
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|-------|---|-------------------|---|---|---|---|---|---|---|---|-----|---|---|-----|
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| | | ggg Gly | | | | | | | | | | | | 432 |
| _ | _ | aag Lys | | | | _ | _ | | | | | | _ | 480 |
| | | gtg Val | | | | | | | - | | | - | - | 528 |
| | | ttc Phe 180 | | | - | | | | | | | | _ | 576 |
| | | tac Tyr | _ | | | _ | - | | - | _ | | - | | 624 |
| | | aag Lys | - | _ | - | | | _ | - | | | _ | _ | 672 |
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| | | gaa Glu | | | | | | | | | | | | 864 |

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| Gly | Leu | Ser | Ala | Ser | Asp | Val | Thr | Glu | Gln | Ile | Ile | Lys | Thr | Met | Glu | |
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| | | | | | - | agt | _ | | | | _ | | | | | 1008 |
| Leu | Leu | Ser | Ala | | Ala | Ser | Ala | Leu | | Thr | Ser | Ser | Ala | | Ile | |
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| Asn | Thr | | Gln | Pro | Leu | Cys | | Ala | Phe | He | Val | | Asp | Glu | Asp | |
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| | | | | | | cga | | _ | | | | | | | | 1152 |
| He | | Lys | Gln | Glu | Glu | Arg | Val | Gln | Gln | Val | | Lys | Lys | Leu | Glu | |
| | 370 | | • | | | 375 | | | | | 380 | | | | | 1000 |
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| | Ala | Leu | Met | Ala | | Ile | Leu | Ser | Arg | | Ala | Asp | Inr | Glu | | |
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| Met | ASP | 11e | WIU | | ASP | Ser | біу | ASP | | Ala | | | | | | |
| Z917 |)> 3 | | | 405 | | | | | 410 | | | | | | | |
| |)> 3 [> 19 | 16 | | | | | | | | | | | | | | |
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| | 2> 11 3> Ho | | eanie | אח כי | | | | | | | | | | | | |
| <400 | | JMO (| арт | 1113 | | | | | | | | | | | | |
| | | Thr | Len | Δla | Cve | Leu | T.eu | Len | Len | Clv | Cve | Glv | Tvr | Len | Δla | |
| 1 | <i>111</i> 5 | 1111 | Dou | 5 | 0,53 | LCQ | DCu | LCu | 10 | ulj | Q , 3 | uly | 131 | 15 | 711 L | |
| | Val | Len | Δla | | Glu | Ala | Glu | He | | Arg | Glu | Va 1 | Ιle | | Are | |
| 1113 | , u. i. | Dou | 20 | oru | ulu | | GIU | 25 | 110 | ,,, Þ | uzu | 141 | 30 | OIU | *** Ø | |
| Leu | Ala | Arg | | Gln | He | His | Ser | | Arg | Asp | Len | Gln | | Leu | Leu | |
| | | 35 | | | -10 | ,- | 40 | | 0 | F | | 45 | 0 | | | |
| Glu | Ila | | Ser | Val | Glv | San | | Aen | car | וום ז | Aen | | Ser | 112 | Ana | |

| | 50 | | | | | 55 | | | | | 60 | | | | | |
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| Ala 65 | His | Gly | Val | His | Ala 70 | Thr | Lys | His | Val | Pro 75 | Glu | Lys | Arg | Pro | Leu 80 | |
| Pro | Ile | Arg | Arg | Lys 85 | Arg | Ser | Ile | Glu | Glu 90 | Ala | Val | Pro | Ala | Va.1 95 | Cys | |
| Lys | Thr | Arg | Thr 100 | Val | Ile | Tyr | Glu | Ile 105 | Pro | Arg | Ser | Gln | Val 110 | Asp | Pro | |
| Thr | Ser | Ala 115 | Asn | Phe | Leu | Ile | Trp 120 | Pro | Pro | Cys | Val | Glu 125 | Val | Lys | Arg | |
| Cys | Thr 130 | Gly | Cys | Cys | Asn | Thr 135 | Ser | Ser | Val | Lys | Cys 140 | G1n | Pro | Ser | Arg | |
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| Cys | Ala | Cys | Ala 180 | Thr | Thr | Ser | Leu | Asn 185 | Pro | Asp | Tyr | Arg | Glu 190 | Glu | Asp | |
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| | 1> C) | | / E 0.1 | ١ | | | | | | | | | | | | |
| | o> (0> 4 | 1/ | (591 | , | | | | | | | | | | | | |
| | | a.c.c | ttg | gct | tgc | ctg | ctg | ctc | ctc | ggc | tgc | gga | tac | ctc | gcc | 48 |
| | | | Leu | | | | | | | | | | | | _ | |
| 1 | J | | ř | 5 | | | | | 10 | | | | | 15 | | , |
| cat | gtt | ctg | gcc | gag | gaa | gcc | gag | atc | ccc | cgc | gag | gtg | atc | gag | agg | 96 |
| His | Val | Leu | Ala | Glu | Glu | Ala | Glu | Ile | Pro | Arg | Glu | Val | Ile | Glu | Arg | |
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| | | | agt | | | | | | | | | | | | | |
| Leu | Ala | | Ser | Gln | Ile | His | | | Arg | Asp | Leu | | | Leu | Leu | |
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| gag | ata | gac | tcc | gta | ggg | agt | gag | gat | tct | ttg | gac | acc | agç | ctg | aga | 192 |
|-------------|-------|-------|------|-----|----------------|-----|-------------|-------------|-------------|------|-----|----------------------|----------------------|-------------|-----|-------|
| Glu | Ile | Asp | Ser | Val | Gly | Ser | Glu | Asp | Ser | Leu | Asp | Thr | Ser | Leu | Arg | |
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| Ala | His | Gly | Val | His | Ala | Thr | Lys | His | Val | Pro | Glu | Lys | Arg | Pro | Leu | |
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| ${\tt Pro}$ | Ile | Arg | Arg | Lys | Arg | Ser | He | Glu | Glu | Ala | Val | Pro | Ala | Val | Cys | |
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| aag | acc | agg | acg | gtc | att | tac | gag | ${\tt att}$ | cct | cgg | agt | cag | gtc | gac | ccc | 336 |
| Lys | Thr | Arg | Thr | Val | Ile | Tyr | Glu | Ile | ${\tt Pro}$ | Arg | Ser | Gln | Val | Asp | Pro | |
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| Thr | Ser | Ala | Asn | Phe | Leu | Ile | Trp | ${\tt Pro}$ | ${\tt Pro}$ | Cys | Val | ${\tt Glu}$ | Val | Lys | Arg | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
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| Cys | Thr | Gly | Cys | Cys | Asn | Thr | Ser | Ser | Val | Lys | Cys | Gln | Pro | ${\tt Ser}$ | Arg | |
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| Val | His | His | Arg | Ser | Val | Lys | Val | Ala | Lys | Val | Glu | Tyr | Val | Arg | Lys | |
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| Lys | Pro | Lys | Leu | Lys | Glu | Val | ${\tt Gln}$ | Val | Arg | Leu | Glu | Glu | His | Leu | Glu | |
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| Cys | Ala | Cys | Ala | Thr | \mathbf{Thr} | Ser | Leu | Asn | Pro | Asp | Tyr | Arg | Glu | Glu | Asp | |
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| Leu | Ser | Asp 35 | His | Ser | Ile | Arg | Ser 40 | | Asp | Asp | Leu | Gln 45 | * | Leu | Leu |
| His | Gly 50 | | Pro | Gly | Glu | Glu 55 | | Gly | Ala | Glu | Leu 60 | | Leu | Asn | Met |
| Thr 65 | Arg | Ser | His | Ser | Gly 70 | Gly | Glu | Leu | Glu | Ser 75 | Leu | Ala | Arg | Gly | Arg 80 |
| Arg | Ser | Leu | Gly | Ser 85 | Leu | Thr | Ile | Ala | Glu 90 | Pro | Ala | Met | Ile | Ala 95 | Glu |
| Cys | Lys | Thr | Arg 100 | Thr | Glu | Val | Phe | Glu 105 | Ile | Ser | Arg | Arg | Leu 110 | Ile | Asp |
| Arg | Thr | Asn 115 | Ala | Asn | Phe | Leu | Val 120 | Trp | Pro | Pro | Cys | VaI 125 | Glu | Val | Gln |
| Arg | Cys 130 | Ser | Gly | Cys | Cys | Asn 135 | Asn | Arg | Asn | Val | Gln 140 | Cys | Arg | Pro | Thr |
| Gln 145 | Val | Gln | Leu | Arg | Pro 150 | Val | Gln | Val | Arg | Lys 155 | Ile | Glu | Ile | Val | Arg 160 |
| Lys | Lys | Pro | Ile | Phe 165 | Lys | Lys | Ala | Thr | Val 170 | Thr | Leu | Glu | Asp | His 175 | Leu |
| Ala | Cys | Lys | Cys 180 | Glu | Thr | Val | Ala | Ala 185 | Ala | Arg | Pro | Val | Thr 190 | Arg | Ser |
| Pro | Gly | Gly 195 | Ser | G1n | Glu | Gln | Arg 200 | Ala | Lys | Thr | Pro | Gln 205 | Thr | Arg | Val |
| Thr | Ile 210 | Arg | Thr | Val | Arg | Val 215 | Arg | Arg | Pro | Pro | Lys 220 | Gly | Lys | His | Arg |
| Lys 225 | Phe | Lys | His | Thr | His 230 | Asp | Lys | Thr | Ala | Leu 235 | Lys | Glu | Thr | Leu | Gly 240 |
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| ctg | gtc | agc | gcc | gag | ggg | gac | ccc | att | CCC | gag | gag | CLL | tat T | gag | Mot | 96 |
| Leu | Val | Ser | | Glu | GLY | Asp | Pro | | Pro | GIU | GTT. | ьeu | 30 | Glu | Mec | |
| | | | . 20 | 4 | | | + | 25 | ere t | ent. | at a | 022 | | ctor | cto | 144 |
| | | | | | | | | | | | | | | ctg | | 111 |
| Leu | 5er | Asp 35 | nis | 2er | He | VI.A | 40 | LHE | иор | иор | пеп | 45 | 411 0 | Leu | nou | |
| 000 | mma. | | e e e | oror a | ຜ ລ ຜ | ฮลล | | 888 | gee | gag | ttg | | ctg | aac | atg | 192 |
| | | | | | | | | | | | | | | Asn | | |
| mo | 50 | пор | 110 | | 414 | 55 | , F | ~ - v | | | 60 | _ | | | | |
| acc | | tcc | çac | tct | gga | | gag | ctg | gag | agc | ttg | gct | cgt | gga | aga | 240 |
| | | | | | | | | | | | | | | Gly | | |
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| agg | agc | ctg | ggt | tcc | ctg | acç | att | gct | gag | ccg | gcc | atg | atc | gcc | gag | 288 |
| Arg | Ser | Leu | Gly | Ser | Leu | Thr | Ile | Ala | Glu | Pro | Ala | Met | Ile | Ala | Glu | |
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| | | | | | | | | | | | | | | ata | | 336 |
| Cys | Lys | Thr | • | Thr | Glu | Val | Phe | | He | Ser | Arg | Arg | | Ile | Asp | |
| | | | 100 | | | | | 105 | | | 1.4 | : L_ | 110 | ~+~ | 000 | 384 |
| | | | | | | | | | | | | | | gtg | | J0 1 |
| Arg | Thr | | | Asn | Phe | Гел | | | Pro | Pro | Cys | vai 125 | ara | Val | UIII | |
| | 4 | 115 | | + | + == | 000 | 120 | | 220 | ort or | ് ഗമത | | _ር ምር | ccc | acc | 432 |
| | | | | | | | | | | | | | | ccc Pro | | 102 |
| Arg | 130 | | иту | Cys | Cy S | 135 | | , m.e | ASII | , , , | 140 | 0,5 | 1/1 0 | | | |
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| | | | | | | | | | | | | | | | Arg | |
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| | | cca | ato | : ttt | | | gco | acg | gtg | acg | ctg | gaa | gao | cac | ctg | 528 |
| | | | | | | | | | | | | | | | Leu | |
| v | • | | | 165 | | • | | | 170 | | | | | 175 | | |
| gea | tgo | aas | tgt | gag | aca | gtg | gea | gct | gca | . cgg | cct | gtg | acc | cga | agc | 576 |

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| Ala | . Cys | Lys | Cys 180 | Glu | Thr | Val | Ala | Ala 185 | Ala | Arg | Pro · | Val | Thr 190 | Arg | Ser | |
|-------|-------|-------|------------|-------|------|-----|-------|------------|------|-------|----------|-------------|----------------------|----------------------|-----|-----|
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| Pro | Gly | Gly | Ser | Gln | Glu | Gln | Arg | Ala | Lys | Thr | Pro | ${\tt Gln}$ | Thr | Arg | Val | |
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| Thr | Ile | Arg | Thr | Val | Arg | Val | Arg | Arg | Pro | Pro | Lys | Gly | Lys | His. | Arg | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| aaa | ttc | aag | cac | acg | cat | gac | aag | acg | gca | ctg | aag | gag | acc | ctt | gga | 720 |
| Lys | Phe | Lys | His | Thr | His | Asp | Lys | Thr | Ala | Leu | Lys | Glu | Thr | Leu | Gly | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
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| Gln | Ala | Glu | Glu | Arg | Gly | Val | Val | Ser | Ile | Lys | Gly | Val | Cys | Ala | Asn | |
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| Val | Thr | Asp | Glu | Cys | Phe | Phe | Phe | Glu | Arg | Leu | Glu | Ser | Asn | Asn | Tyr | |
| | | _ | 100 | | | | | 105 | _ | | | | 110 | | | |
| Asn | Thr | Tyr | | Ser | Arg | Lys | Tyr | | Ser | Trp | Tyr | Val | Ala | Leu | Lys | |
| | | 115 | | | | • | 120 | | | | • | 125 | | | - | |
| Arø | Thr | | Gln | Tvr | Lvs | Len | | Ser | Lvs | Thr | Glv | | Glv | Gln | Lvs | |
| *** 5 | 130 | ~ I J | ~ ±±4 | - , - | ~, ~ | 135 | ~ ± J | 201 | ~, • | . 111 | 140 | - 1 0 | | ~ 111 | 2,0 | |

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| | | | ggg | | | | | | | | | | | | | 48 |
| Met | Ala | Ala | Gly | | Ile | Thr | Thr | Leu | | Ala | Leu | Pro | Glu | | Gly | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | 0.0 |
| | _ | | gcc | | | | | | | | | | | | | 96 |
| Gly | Ser | Gly | Ala | Phe | Pro | Pro | Gly | | Phe | Lys | Asp | Pro | | Arg | ьец | |
| | | | 20 | | | | | 25 | | | | | 30 | | | 1 1 1 |
| | | | aac | | | | | | | | | | | | | 144 |
| Tyr | Cys | - | Asn | Gly | Gly | Phe | | Leu | Arg | He | HIS | | Asp | GIY | Arg | |
| | | 35 | | | | | 40 | | | | _4_ | 45 | -+- | | a++ | 109 |
| | | | gtc | | | | | | | | | | | _ | | 192 |
| Val | | Gly | Val | Arg | GIU | | 5er | Asp | Pro | HIS | 60 | Lys | Leu | GIII | Leu | |
| | 50 | | | | | 55 | . | + . + | · . | | | a+ a | ++ | go+ | 220 | 240 |
| | | | gag | | | | | | | | | | | | - | 440 |
| | Ala | GIU | Glu | Arg | 70 | vai | VAL | zer. | 116 | ъуs 75 | dly | Vai | Uys | Viq | 80 | |
| 65 | taa | ~+~ | ~a+ | 5 ± æ | | gro o | oo t | arar o | 242 | | cte | act | tet | 222 | | 288 |
| | | | gct Ala | | | | | | | | | | | | | 200 |
| Arg | I y I | ren | Ala | 85 | гìХ | илц | Asp | OLY | 90 | ьеu | rea | AIG | Del | 95 | 0,5 | |
| c+-(+(+- | nad | ora t | gag | | tto | +++ | +++ | gaa | | tto | gaa | tct | aat | | tac | 336 |
| | | | Glu | | | | | | | | | | | | | 000 |
| Val | 1111 | ASP | 100 | Cys | THE | THE | Inc | 105 | | пса | Q, u | .001 | 110 | 71511 | 1,71 | |
| 00+ | aat | tan | cgg | taa | ೨ ರ ರ | 222 | tac | | | too | tat | ot.o | | tt.g | ลลล | 384 |
| | | | Arg | | | | | | | | | | | | | |
| /15II | 1111. | 115 | TI E | NCI | лг | பர் | 120 | | 501 | тъ | 1 J 1 | 125 | 1110 | a | _, _ | |
| 000 | 204 | | cag | tat | 222 | ctt | | | ลลล | aca | gga | | . Ծ. | cag | aaa | 432 |
| | | | Gln | | | | | | | | | | | | | 102 |
| AI.B | TIII, | ary | αTII | TAI. | ъys | ր¢ r | GLy | PGI. | ъyS | Y YYY | Ory | 110 | OIJ | O III | 17.5 | |

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| | 130 | | | | | 135 | | | | | 140 | | | | |
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| gct | ata | ctt | ttt | ctt | cca | atg | tct | gct | aag | agc | | | _ | | |
| Ala | Ile | Leu | Phe | Leu | ${\tt Pro}$ | Met | Ser | Ala | Lys | Ser | | | - | | |
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| Leu | Ser | Ala 35 | Arg | Leu | Glu | Ala | Thr 40 | Leu | Ala | Pro | Ser | Ser 45 | Cys | Met | Leu |
| Ala | Ala 50 | Phe | Lys | Pro | Glu | Ala 55 | Tyr | Ala | Gly | Pro | G1u 60 | Ala | Ala | Ala | Pro |
| Gly 65 | Leu | Pro | Glu | Leu | Arg 70 | Ala | Glu | Leu | Gly | Arg 75 | Ala | Pro | Ser | Pro | Ala 80 |
| Lys | Cys | Ala | Ser | Ala 85 | Phe | Pro | Ala | Ala | Pro 90 | Ala | Phe | Tyr | Pro | Arg 95 | Ala |
| Tyr | Ser | Asp | Pro 100 | Asp | Pro | Ala | Lys | Asp 105 | Pro | Arg | Ala | Glu | Lys 110 | Lys | Glu |
| Leu | Cys | Ala 115 | Leu | Gln | Lys | Ala | Val 120 | Glu | Leu | Glu | Lys | Thr 125 | Glu | Ala | Asp |
| Asn | Ala 130 | Glu | Arg | Pro | Arg | Ala 135 | Arg | Arg | Arg | Arg | Lys 140 | Pro | Arg | Val | Leu |
| Phe | Ser | Gln | Ala | Gln | Val | Tyr | Glu | Leu | Glu | Arg | Arg | Phe | Lys | Gln | Gln |
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| Arg | Tyr | Leu | Ser | Ala 165 | Pro | Glu | Arg | Asp | Gln 170 | Leu | Ala | Ser | Val | Leu 175 | Lys |
| Leu | Thr | Ser | Thr 180 | Gln | Val | Lys | Ile | Trp 185 | Phe | Gln | Asn | Arg | Arg 190 | Tyr | Lys |
| Cys | Lys | Arg 195 | Gln | Arg | Gln | Asp | Gln 200 | Thr | Leu | Glu | Leu | Val 205 | Gly | Leu | Pro |
| Pro | Pro | Pro | Pro | Pro | Pro | Ala | | Arg | Ile | Ala | Val | | Val | Leu | Val |

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| | 210 | | | | | 215 | | | | | 220 | | | | | |
|------------|--|------------|------------|------------|------------|-------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------|
| 225 | | | | | 230 | | | | | 235 | Pro | | | | 240 | |
| Tyr | Gly | Val | Gly | Leu 245 | Asn | Pro | Tyr | | Tyr 250 | Asn | Ala | Tyr | Pro | Ala 255 | Tyr | |
| Pro | Gly | Tyr | Gly 260 | Gly | Ala | Ala | Cys | Ser 265 | Pro | Gly | Tyr | Ser | Cys 270 | Thr | Ala | • |
| Ala | Туг | Pro 275 | Ala | Gly | Pro | Ser | Pro 280 | Ala | Gln | Pro | Ala | Thr 285 | Ala | Ala | Ala | |
| Asn | Asn 290 | Asn | Phe | Val | Asn | Phe 295 | Gly | Val | Gly | Asp | Leu 300 | Asn | Ala | Val | Gln | |
| Ser 305 | Pro | Gly | Ile | Pro | GIn 310 | Ser | Asn | Ser | Gly | Val 315 | Ser | Thr | Leu | His | Gly 320 | |
| He | Arg | Ala | Trp | | | | | | | | | | | • | | |
| | 0> 1 ¹ 1> 9 ¹ | | | | | | | | | | | | | | | |
| | 2> Di | | | | | | | | | | | | | | | |
| | | ошо . | sapi | ens | | | | | | | | | | | | |
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| | | | | | | | | | | | ttc | | | | | 48 |
| | | Pro | Ser | | | Leu | Thr | Pro | | | Phe | 5er | ٧aı | ьуs 15 | | |
| 1 | | | | 5 | | | | . M. | 10 | | · act | me e | or o o | | | 96 |
| | | | | | | | | | | | | | | | gag Glu | 00 |
| | | - | 20 |) | | | | 25 | | | | | 30 | 1 | glu . | |
| ctc | tct | gcc | cgc | ctg | gag | gcg | acc | ctg | gcg | cec | tcc - | tee | tgo | ate | ctg | 144 |
| Leu | Ser | | | Leu | Glu | Ala | | | Ala | Pro | Ser | | | Met | t Leu | |
| | | 35 | | | | | 40 | | | | | 45 | | | | 1.09 |
| | | | | | | | | | | | | | | | g ccg | 192 |
| Ala | | | Lys | s Pro |) Glu | | | Ala | . G13 | rro | 60 60 | | ı Ala | i Ala | a Pro | |
| , | 5(| | | r ata | r onto | 55 . ecs | | , cta | r grorr | ጉ ሶም/ | | | t the | a cc | g gcc | 240 |
| 5.5.(| : (11.6 | : CC8 | 1. 14.01.2 | こじいと | | , 5VC | , SOLE | , UVF | , 00' | , ver | , O.P | , | | ~ ~~ | , ,,,,, | |

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| Gly 65 | Leu | Pro | Glu | Leu | Arg 70 | Ala | Glu | Leu | Gly | Arg 75 | Ala | Pro | Ser | Pro | Ala 80 | |
|------------|-----|------------|-----|-----|------------|-----|------------|-----|------|------------|-----|------------|----------|------------|------------|-----|
| | | | | | | | | | | | | | | cgt Arg | | 288 |
| | | | | 85 | | | | | 90 | | | | | 95 | | 106 |
| | | | | | | | | | | | | | | aaa Lys | | 336 |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| | | | | | | | | | | | | | | gcg | | 384 |
| Leu | Cys | Ala 115 | Leu | Gln | Lys | Ala | Val 120 | Glu | Leu | Glu | Lys | Thr 125 | Glu | Ala | Asp | |
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| | | | | | | | | | | | | | | cag | | 480 |
| Phe 145 | Ser | Gln | Ala | Gln | Val 150 | Tyr | Glu | Leu | Glu | Arg 155 | Arg | Pne | Lys · | Gln | 160. | |
| | | | | | | | | | | | | | | ctg | | 528 |
| | | | | 165 | | | | | 170 | | | | | Leu 175 | | |
| | | | | | | | | | | | | | | | aag | 576 |
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| | | 195 | | | | | 200 | | | | | 205 | | | Pro | |
| | | | | | | | | | | | | | | | gtg | 672 |
| | 210 | | | | | 215 | • | | | | 220 | | | | Val | |
| | | | | | | | | | | | | | | | gcc | 720 |
| Arg 225 | | Gly | Lys | Pro | Cys 230 | | (Gly | Asp | Ser | · Ala | | 1yr | · Ala | ı Pro | Ala 240 | |
| | | | | | | | | | | | | | | | tat | 768 |
| | | | | 245 | 5 | | | | 250 |) | | | | 255 | | |
| ccg | ggt | tac | ggc | ggc | gcg | gco | tgo | ago | cct: | ggc | tac | ago | tge: | c act | gcc | 816 |

| Pro | Gly | Tyr | Gly 260 | Gly | Ala | Ala | Cys | Ser 265 | Pro | Gly | Tyr | Ser | Cys 270 | Thr | Àla | |
|---------|------------|---------------------|------------|-------|-------|-------|-------|------------|-------|-------|-------|------|------------|-------|-------|-----|
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| Ala | Tyr | Pro | Ala | Gly | Pro | Ser | Pro | Ala | Gln | Pro | Ala | Thr | Ala | Ala | Ala | |
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| aac | aac | aac | ttc | gtg | aac | ttc | ggc | gtc | ggg | gac | ttg | aat | gcg | gtt | cag | 912 |
| Asn | Asn | Asn | Phe | Val | Asn | Phe | Gly | Val | Gly | Asp | Leu | Asn | Ala | Val | Gln | |
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| Ser | Pro | G1v | He | Pro | Gln | Ser | Asn | Ser | Gly | Val | Ser | Thr | Leu | His | Gly | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| | cga | gcc | tgg | | | | | | | | | | | | | 972 |
| | | Ala | | | | | | | | | | | | | | |
| 110 | 214 5 | 11100 | 324 | | | | | | | | | | | | | |
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| | 2> P) | | | | | | | | | | • | | | | | |
| | | | sapi | ens | | | | | | | | | | | | |
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| | | | Ser | Leu | Ala | Met | Ala | Ala | Asn | His | Gly | Pro | Pro | Pro | Gly | |
| 1 | -0- | | | 5 | | | | | 10 | | | | | 15 | | |
| | Tyr | Gln | Ala | Gly | Gly | Pro | Gly | Pro | Phe | Met | His | Gly | Ala | Gly | Ala | |
| | - v | | 20 | | | | | 25 | | | | | 30 |) | | |
| Ala | Ser | Ser | Pro | Val | Tyr | Leu | Pro | Thr | Pro | Arg | Val | Pro | Ser | Ser | Val | |
| • | | 35 | | | | | 40 | | | | | 45 | | | | |
| Leu | Gly | | | Tyr | Leu | Gln | Gly | Gly | Gly | Ala | Gly | Ser | · Ala | a Ser | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Glv | | | Gly | Gly | Ser | Pro | Gly | Gly | Ala | Ala | ı Ser | Gl | 7 Ala | ı Gly | Рго | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Gly | · 7 Thr | Glr | Glr | Gly | z Ser | Pro | Gly | Trp | Ser | Glr | ı Ala | ı Gl | y Ala | a Thr | Gly | |
| 440 | | | _ | 85 | | | | | 90 | | | | | 95 | 5 | |
| ۸la | a Ala | . Tvr | - Thr | | | Pro | Val | Ser | r Pro | Arg | g Phe | e Se | r Ph | e Pro | Gly | |
| 11,11 | | ~ 1, 1 | 100 | | | | | 108 | | | | | 11 | 0 | | |
| The | · ፐክ፣ | - (, 1, | | | ı Ala | ı Ala | a Ala | | | a Ala | a Ala | a Al | a Al | a Arg | g Glu | |
| 7 7 7 7 | | 115 | | | | | 120 | | | | | 12 | 5 | | | |
| A 1 : | a Ala | | | r Sei | r Sei | · Gl | | | y Ala | a Ala | a Gl | y Al | a Gl | y Lei | ı Ala | |
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| | 130 | | | | | 135 | | | | | 140 | | | | |
|------------|------------|------------|------------|------------|------------|------------|--------------|------------|--------------|------------|------------|------------|------------|-------------------------|------------|
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| Pro | Tyr | Pro | Ala | Tyr 165 | Met | Ala | Asp | Val | Gly 170 | Ala | Ser | Trp | Ala | Ala 175 | Ala |
| Ala | Ala | Ala | Ser 180 | Ala | Gly | Pro | Phe | Asp 185 | Ser | Pro | Val | Leu | His 190 | Ser | Leu |
| Pro | Gly | Arg 195 | Ala | Asn | Pro | Ala | ~ ^ ^ | Arg | | Pro | Asn | Leu 205 | Asp | Met | Phe |
| Asp | Asp 210 | | Ser | Glu. | | Arg 215 | Glu | Cys | Val | Asn | Cys 220 | Gly | Ala | Met | Ser |
| Thr 225 | Pro | Leu | Trp | Arg | Arg 230 | Asp | Gly | Thr | Gly | His 235 | Tyr | Leu | Cys | Asn | Ala 240 |
| Cys | Gly | Leu | Tyr | His 245 | Lys | Met | Asn | Gly | Ile 250 | Asn | Arg | Pro | Leu | 11e [.] 255 | Lys |
| Pro | Gln | Arg | Arg 260 | Leu | Ser | Ala | Ser | Arg 265 | | Val | Gly | Leu | Ser 270 | Cys | Ala |
| Asn | Cys | Gln 275 | Thr | Thr | Thr | Thr | Thr 280 | Leu | Trp | Arg | Arg | Asn 285 | Ala | Glu | Gly |
| Glu | Pro 290 | Val | Cys | Asn | Ala | Cys 295 | | Leu | Tyr | Met | Lys 300 | Leu | His | Gly | Val |
| Pro 305 | Arg | | Leu | Ala | Met 310 | | Lys | Glu | Gly | 11e 315 | | Thr | Arg | Lys | Arg 320 |
| Lys | Pro | Lys | Asn | Leu 325 | | Lys | Ser | Lys | Thr 330 | | Ala | . Ala | Pro · | Ser 335 | Gly |
| Ser | Glu | Ser | Leu 340 | | Pro | | . Ser | Gly 345 | | . Ser | Ser | · Asn | Ser 350 | | Asn |
| Ala | Thr | Thr 355 | | Ser | Ser | Glu | . Glu 360 | | Arg | Pro | Ile | Lys 365 | Thr | Glu | Pro |
| Gly | Leu 370 | ı Ser | | His | Tyr | Gly 375 | | Ser | Ser | Ser | Va] | | Gln | Thr | Phe |
| Ser 388 | Va] | l Ser | r Ala | ı Met | Ser 390 | | 7 His | Gl3 | Pro | Ser 398 | | His | s Pro | Val | Leu 400 |
| Sei | r Ala | a Lei | ı Lys | Let 405 | ı Sei | | Glr | n Gl | y Tyr 410 | | a Sei | r Pro | o Val | Ser 418 | Gln |
| Sei | r Pro | o Gli | n Thi | | | r Lys | s Gli | n Asj | p Se | r Tr | p Ası | n Sei | r Lei | ı Val | l Leu |

| | | | 420 | | | | 4 | 42 5 | | | | 4 | 30 | | | |
|-------|-------|----------|------------|-------------------|-------|-------|------|-------------|-------|-------|-------|------------|-----|-------|-------|-------|
| Ala . | Asp | Ser : | His (| 3ly 1 | Asp | | | Thr . | Ala | | | | | | | |
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| Met | Tyr | Gln | Ser | Leu | Ala | Met | Ala | Ala | Asn | His | Gly | Pro | Pro | Pro | ary | |
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| gcc | tac | cag | gcg | ggc | ggc | cc¢ | ggc | ccc | ttc | atg | cac | ggc | gcg | ggc | gec | 90 |
| Ala | Tyr | Gln | Ala | Gly | Gly | Pro | Gly | Pro | Phe | Met | His | Gly | Ala | GLY | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | 1 4 4 |
| gcg | tcc | tcg | cca | gtc | tac | ctg | ccc | aca | ccg | cgg | gtg | CCC | tcc | tcc | gtt | 144 |
| Ala | Ser | Ser | Pro | Val | Tyr | Leu | Pro | Thr | Pro | Arg | Val | Pro | Ser | Ser | vai | |
| | | 35 | | | | | 40 | | | | | 4 5 | | | | 100 |
| ctg | ggc | ctg | tcc | tac | ctc | cag | ggc | gga | ggc | gcg | ggc | tct | gcg | tcc | gga | 192 |
| Leu | Gly | Leu | Ser | Tyr | Leu | Gln | Gly | Gly | Gly | Ala | Gly | Ser | Ala | Ser | GLY | |
| | 50 | | | | | 55 | | | | | 60 | | | | | 0.40 |
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| Gly | Pro | Ser | Gly | Gly | Ser | Pro | Gly | Gly | Ala | Ala | Ser | Gly | Ala | . Gly | Pro | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | 200 |
| ggg | acc | cag | cag | ggc | ago | ccg | gga | . tgg | agc | cag | gcg | gga | gcg | acc | gga | 288 |
| G1y | Thr | Gln | Gln | Gly | Ser | Pro | Gly | Trp | Ser | Gln | Ala | . Gly | Ala | Thr | GIY | |
| | | | | 85 | ; | | | | 90 |) | - | | | 95 |) | |
| gcc | gct | tac | acc | ccg | cce | ccg | gte | tce | ccg | cgc | tto | tcc | tto | cce | ggg | 336 |
| Ala | . Ala | a Tyr | Thr | Pro | Pro | Pro | [Va] | Ser | Pro | Arg | g Phe | e Ser | Phe | e Pro | Gly | |
| 1110 | | | 100 | | | | | 105 | | | | | 110 |) . | | |
| aro | acc | egg | tcc | ct | g gcg | g gcg | gce | g gcg | g gcg | g gct | gcc | gcc | gç | c cgs | g gaa | 384 |
| The | r Thi | r Gli | y Ser | Lei | u Ala | a Ala | Ala | a Ala | a Ala | a Ala | a Ala | a Ala | Ala | a Arg | g Glu | |
| 1111 | | 115 | | | | • | 120 | | | | | 125 | í | | | |
| mo: | t orr | ታ ው መ | - e tar | . a.g | c ag | t ggo | | | a gcs | g gcg | g ggʻ | t gcg | gg | c ct | g gcg | 432 |
| gc | U BU | 5 50 | | , 4 0, | - ~- | - 30` | 55 | 33 | | | | | | | | |

| Ala. | Ala | Ala | Tyr | Ser | Ser | Gly | Gly | Gly . | Ala | Ala | Gly | Ala | Gly | Leu | Ala | |
|------|------------|------------------|---------------|-------|--|-------|--------|-------|-------|-------|--------------|--------------|--------------|-------|-------|---------|
| | 130 | | | | | 135 | | | | | 140 | | | | | 400 |
| ggc | cgc | gag | cag | tac | ggg | cgc . | gcc | ggc | ttc | gcg | ggc | tcc | tac | tcc | agc | 480 |
| Gly | Arg | Glu | Gln | Tyr | Gly | Arg | Ala | Gly | Phe | Ala | Gly | Ser | Tyr | Ser | zer. | |
| 145 | | | | | 150 | | | | | 155 | | | | | TOO | 500 |
| ccc | tac | ccg | gct | tac | atg | gcc | gac | gtg | ggc | gcg | tcc | tgg | gcc | gca | gcc | 528 |
| Pro | Tyr | Pro | Ala | Tyr | Met | Ala | Asp | Val | Gly | Ala | Ser | Trp | Aia | Ala | Ala | |
| | | | | 165 | | | | | 170 | | | . 4 | | 175 | ota | 576 |
| gcc | gcc | gcc | tcc | gcc | ggc | ccc | ttc | gac | agc | ccg | gtc | ctg | Cac . Uic | Cor | TAU | 010 |
| Ala | Ala | Ala | | | Gly | Pro | Phe | | Ser | Pro | Val | ьeu | 190 | Sei | . nea | |
| | | | 180 | | | | | 185 | | | o o + | a+a | | | +++ | 624 |
| ccc | ggc | cgg | gcc | aac | ccg | gcc | gcc | cga | cac | CCC | Agn | Lou | A cn | Met | Phe | , 021 |
| Pro | Gly | | Ala | . Asn | Pro | Ala | Ala | Arg | nis | Ł I.O | Wall | . Deu 205 | дор | 1100 | 1110 | , |
| | | 195 | | | | | 200 | ++ | art o | 220 | tot | | | ate | tec | 672 |
| gac | gac | ttc | tca | , gaa | ggc | aga | gag | Cur | Val | Δen | Cvs | . 61v | Ala | . Met | Ser | |
| Asp | | | Ser | GIU | Gly | 215 | gru | Cys | vai | , | 220 |) | *** | | | |
| | 210 | 4 . | | | cga | | oro or | ace | eet. | . cac | | | tgc: | aac | gco | 720 |
| acc | ccg | CUC | Lgg | , agg | de d | Acn | Glv | Thr | G1v | His | Tyı | Let | ı Cys | s Ası | Ala | 3 |
| | | Leu | ı ir. | MIE | 230 | | U I J | 1111 | , | 235 | ,) | | | | 240 | 0 |
| 225 | etete | ato | + 44 | r cac | aag | | aac | ggc | ato | | | g ccg | g cto | ato | aa | g 768 |
| Cwe | ggo Gla | , U.C. , I.e. | , ταν ι Τυ | r His | Lys | Met | Asn | Gly | Ile | . Asr | a Ar | g Pro |) Let | 1 I l | e Ly | s |
| Cys | , ui, | . шес | LIJI | 248 | | | • | • | 250 |) | | | | 25 | 5 | |
| cct | · cas | r cg(| e egi | g cts | z tee | gcc | tcc | cgo | cga | gt | g gg | c ct | c tc | c tg | t gc | c 816 |
| Pro | Gli | n Ars | z Ar: | g Lei | u Ser | · Ala | Ser | Arg | , Ar | g Val | l Gl | y Le | u Se | r Cy | s Al | a |
| | | | 26 | 0 | | | | 265 | 5 | | | | 27 | U | | |
| aad | e tge | c car | z ac | c ac | c acc | acc | ace | cts | tg: | g cg | c cg | c aa | t gc | g ga | g gg | c 864 |
| Ası | a Cy: | s Gl | n Th | r Th | r Thi | Thi | Thr | Lev | ı Tr | p Ar | g Ar | g As | n Al | a Gl | u Gl | y |
| | | 27 | 5 | | | | 280 |) | | | | 28 | ์ ว | | | |
| ga | g cc | t gt | g tg | c aa | t gc | tgo | gge | c ct | c ta | c at | g aa | g ct | c ca | .c gg | g gt | g 912 |
| Gl | u Pr | o Va | 1 Су | s As | n Ala | a Cys | s Gly | y Le | u Ty | r Me | t Ly | rs Le | u Hi | s Gl | y Va | il |
| | 29 | 0 | | | | 29 | 5 | | | | 30 |)() | | | | |
| ¢¢ | c ag | g cc | t ct | t gc | aat | g cg | g aa | a ga | g gg | g at | c ca | aa ac | c ag | a aa | ta ca | gg 960 |
| Pr | o Ar | g Pr | o Le | eu Al | a Me | t Ar | g Ly | s Gl | u Gl | y II | e G | ln Th | ır Ar | g Ly | rs Al | rg |
| 30 | 5 | | | | 31 | 0 | | | | 31 | .5 | | | | 34 | 20 |
| aa | g co | c aa | g aa | ac ct | g aa | t aa | a tc | t aa | g ac | a co | a go | ca go | ct co | et to | ca g | gc 1008 |

00-12-27; 5:41PM;NGB PATENT DEPT

| Lys | Pro | Lys | Asn | Leu 325 | Asn | Lys | Ser | Lys | Thr 330 | Pro | Ala | Ala | Pro | Ser 335 | Gly | |
|----------|-------|-------------|------------|------------|-------|-------|------------|------------|------------|-------|-------------|-------------|--------------------|------------|-------|------|
| agt | gag | agc | ctt | | ссс | gcc | agc | ggt | gct | tcc | agc | aac | tcc | agc | aac | 1056 |
| Ser | Glu | Ser | Leu 340 | Pro | Pro | Ala | Ser | Gly 345 | Ala | Ser | Ser | Asn | Ser 350 | Ser | Asn | |
| gcc | acc | acc | agc | agc | agc | gag | gag | atg | cgt | ccc | atc | aag | acg | gag | cct | 1104 |
| Ala | Thr | Thr 355 | Ser | Ser | Ser | Glu | Glu 360 | Met | Arg | Pro | He | Lys 365 | Thr | Glu | Pro | |
| ggc | ctg | tca | tct | cac | tac | ggg | cac | agc | agc | tcc | gtg | tcc | cag | acg | ttc | 1152 |
| | 370 | | | | | 375 | | | | | Val- 380 | - | | | | |
| tca | gtc | agt | gcg | atg | tct | ggc | cat | ggg | ccc | tcc | atc | cac | cct | gtc | ctc | 1200 |
| 385 | | | | | 390 | | | | | 395 | He | | | | 400 | |
| tcg | gcc | ctg | aag | ctc | tcc | cca | caa | ggc | tat | gcg | tct | ccc | gtc | agc | cag | 1248 |
| Ser | Ala | Leu | Lys | Leu 405 | Ser | Pro | Gln | Gly | Tyr 410 | Ala | Ser | Pro | Val | Ser 415 | Gln | |
| tct | cca | cag | acc | agç | tcc | aag | cag | gac | t¢t | tgg | aac | agt | ctg | gtc | ttg | 1296 |
| Ser | Pro | Gln | Thr 420 | Ser | Ser | Lys | Gln | Asp 425 | Ser | Trp | Asn | Ser | Leu 430 | | Leu | |
| gcc | gac | agt | cac | ggg | gac | ata | atc | act | gcg | | | | | | | 1326 |
| Ala | Asp | Ser 435 | | Gly | Asp | He | Ile 440 | | Ala | | | | | | | |
| <21 | 0> 1 | 3 | | | | | | | | | | | | | | |
| <21 | 1> 5 | 07 | | | | | | | | | | | | | | |
| <21 | 2> P | RT | | | | | | | | | | | | | | |
| <21 | 3> H | omo | sapi | ens | | | | | | | | | | | | |
| | 0> 1 | | | | | | | | | | | | ~ 3 | | | |
| Met 1 | | Arg | ; Lys | Lys 5 | | Gln | Ιle | e Thr | · Arg | | e Met | . Asp | GIU | ı Arg | g Asn | |
| | | ı Val | Thr 20 | | e Thr | Lys | Arg | Lys 25 | | e Gly | , Leu | ı Met | L y s 30 | | s Ala | |
| Tyr | Glu | ı Lev 35 | | · Val | Leu | і Суз | Ası 4(| | s Glu | 1 II6 | e Ala | ı Lei 45 | | e I10 | e Phe | |
| Asn | ı Sei | | | Lys | s Lei | ı Phe | e Gli | а Туг | . Ala | a Sei | | | o Met | t Ası | p Lys | |
| | 50 |) | | | | 55 | 5 | | | | 60 |) | | | | |

| 65 | | | Lys | | 70 | | | | | 75 | | | | | 80 |
|-----|------------|------------|-------------|--------------|------------|--------------|------------|------------|-------------|------------|--------------|------------|--------------|--------------|------------|
| Asn | Ser | Asp | Ile | Val 85 | Glu | Ala | Leu | Asn | Lys 90 | Lys | Glu | His. | Arg | Gly 95 | Cys |
| Asp | Ser | Pro | Asp 100 | Pro | Asp | Thr | Ser | Tyr 105 | Val | Leu | Thr | Pro | His 110 | Thr | Glu |
| Glu | Lys | Tyr 115 | Lys | Lys | Ile | Asn | Glu 120 | Glu | Phe | Asp | Asn | Met 125 | Met | Arg | Asn |
| His | Lys 130 | | Ala | | Gly | Leu 135 | Pro | Pro | Gln | Asn | Phe 140 | Ser | | Ser | Val |
| 145 | Val | | Val | | 150 | | | | | 155 | | | | | 160 |
| Ser | | | Val | 165 | | | | | 170 | | | | | 175 | |
| Ser | Ser | Met | Leu 180 | | Pro | Pro | Gln | Thr 185 | | Leu | His | Arg | Asn 190 | Val | Ser |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| | 210 | | Thr | | | 215 | | | | | 220 | | | | |
| 225 | ı | | | | 230 | | | | | 235 | , | | | | G1y 240 |
| Ala | Thr | Gly | Ala | . Asn 245 | | Leu | Gly | Lys | Va.] 25(| | Pro | Thr | Lys | Ser 255 | Pro |
| Pro | Pro | Pro | Gly 260 | | Gly | Asn | Leu | | | t Asr | | Arg | 270 270 | Pro | Asp |
| | | 278 | 5 | | | | 280 |) | | | | 285 | 5 | | Leu |
| Sei | Gli 290 | ı Glı | u Glu | ı G10 | ı Let | ı Glu 295 | | ı Ası | n Th | r Gli | n Arg 300 | g Ile) | e Ser | Ser | Ser |
| G1: | n Ala | a Thi | r Glı | n Pro | Let 310 | | a Thi | r Pro | o Va | 1 Va 31 | | r Val | l Thr | Thr | Pro 320 |
| Se | r Le | u Pr | o Pro | o G11 | n G1; | | ı Val | l Ty | r Se 33 | | a Met | t Pro | o Thi | n Ala 339 | a Tyr 5 |
| As | n Th | r As | р Ту: 34 | r Se | | u Thi | r Se | r Al | | p Le | u Se | r Ala | a Lei 350 | u Gli O | n Gly |

| | | 355 | Pro | | | | 360 | | | | | 365 | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----|
| | 370 | | Leu | | | 375 | | | | | 380 | | | | | |
| Gln 385 | Leu | Ser | Gln | Gly | Ser 390 | Asn | Leu | Ser | Ile | Asn 395 | Thr | Asn | Gln | Asn | Ile 400 | |
| Ser | Ile | Lys | Ser | Glu 405 | Pro | He | Ser | Pro | Pro 410 | Arg | Asp | Arg | Met | Thr 415 | Pro | |
| Ser | Gly | Phe | Gln 420 | Gln | Gln | Gln | Gln | Gln 425 | Gln | Gln | Gln | Gln | Gln 430 | Pro | Pro | |
| Pro | Pro | Pro 435 | Gln | Pro | Gln | Pro | Gln 440 | Pro | Pro | Gln | Pro | G1n 445 | Pro | Arg | Gln | |
| Glu | Met 450 | | Arg | Ser | Pro | Val 455 | Asp | Ser | Leu | Ser | Ser 460 | Ser | Ser | Ser | Ser | |
| 465 | Asp | | | | 470 | Glu | | | | 475 | • | | | | Pro 480 | |
| Ile | Val | Leu | Gly | Arg 485 | | Pro | Asn | Thr | Glu 490 | Asp | Arg | Glu | Ser | Pro 495 | Ser | |
| Val | Lys | Arg | Met 500 | | Met | . Asp | Ala | Trp 505 | | Thr | • | | | | | |
| <21 | 0> 1 | 4 | | | | | | | | | | | | | | |
| <21 | 1> 1 | 521 | | | | | | | | | | | | | | |
| | .2> D | | | | - | | | | | | | | | | | |
| | | lomo | sapi | ens | | | | | | | | | | | | |
| <22 | | יחפ | | | | | | | | | | | | | | |
| | 21> (| | . (152 | 24.) | | | | | | | | | | | | |
| | 10> 1 | | . (104 | 11/ | | | | | | | | | | | | |
| | | | e aas | e aaa | a ata | a caa | a ate | c aca | a cgo | c at | a at | g ga | t ga | a ag | g aac | 48 |
| Me | t Gl | y Ara | g Ly: | s Ly: | s Il | e Gli | n II | e Thi | r Ar | g Il | e Me | t As | p Gl | u Ar | g Asn | |
| | 1 | | | į | 5 | | | | 1 | 0 | | | | 1 | 5 | |
| cg | a ca | g gt | c ac | t tt | t ac | a aa; | g ag | a aa | g tt | t gg | a tt | a at | g aa | g aa | a gcc | 96 |
| Ar | g Gli | n Va | 1 Th: | r Ph | e Th | r Ly | s Ar | g Ly: 2 | s Ph | e Gl | y Le | u Me | t Ly 3 | s Ly | s Ala | |
| ta | t ga | a ct | | | g ct | c tg | t ga | c tg | t ga | a at | a go | a ct | c at | c at | t ttc | 144 |
| Tv | r Gl | n Le | u Se | r Va | l Le | u Cy | s As | рСу | s Gl | u Il | e Al | a Le | u Il | e Il | e Phe | |

| | | 35 | | | | | 40 | | | | | 45 | | | | |
|-------|----------------|------------|----------------|----------------------|-------|-------|-------|-------|--------|----------------------|--------|-------------|-------|-------|------------|-------------|
| aac | agç | | aac | aaa | ctg | ttt | caa | tat | gct | agc | act | gat | atg | gac | aaa | 192 |
| Asn | Ser | Ser | Asn | Lys | Leu | Phe | Gln | Tyr | Ala | Ser | Thr | Asp | Met | Asp | Lys | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| gtt | ctt | ctc | aag | tat | aca | gaa | tat | aat | gaa | cct | cat | gaa | agc | aga | acc | 240 |
| Val | Leu | Leu | Lys | Tyr | Thr | Glu | Tyr | Asn | Glu | Pro | His | Glu | Ser | Arg | Thr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80. | |
| aac | tcg | gat | att | gtt | gag | gct | ctg | aac | aag | aag | gaa | cac | aga | ggg | tgc | 288 |
| Asn | Ser | Asp | Ile | Val | Glu | Ala | Leu | Asn | Lys | Lys | Glu | His | Arg | Gly | Cys | |
| | | | | 85 | | | | | 90 | | | | | 95 | | 000 |
| gac | agc | cca | gac | cct | gat | act | tèa | tat | gtg | cta | act | cca | cat | aca | gaa | 336 |
| Asp | Ser | Pro | Asp | Pro | Asp | Thr | Ser | | Val | Leu | Thr | Pro | HIS | Thr | Glu | |
| | | | 100 | | | | | 105 | | | | | 110 | | + | 201 |
| gaa | aaa | tat | aaa | aaa | att | aat | gag | gaa | ttt | gat | aat | atg | atg | cgg | aat | 384 |
| Glu | Lys | Tyr | Lys | Lys | He | Asn | | Glu | Phe | Asp | Asn | Met | мет | Arg | ASII | |
| | | 115 | | | | | 120 | | | | LIL | 125 | a+ a | + ^+ | at c | 432 |
| cat | aaa | atc | gca | cct | ggt | ctg | cca | CCT | cag | aac | Dha | Con | Mot | Cor | Val | 1 0∆ |
| His | | | Ala | Pro | Gly | Leu | Pro | Pro | GIN | ASII | 140 | | пес | 9¢1 | vai | |
| | 130 | | | | | 135 | + | and t | ++ a | +00 | | | 996 | cca | gag | 480 |
| aca | gtt | cca | gtg | acc | agc | CCC | aat | gu. | LUE | Con | יינצר. | ac c Thr | Agn | Pro | ggg | |
| | Val | Pro | Val | ınr | | | ASII | Ala | · rea | 155 | | 1111 | 11011 | | Gly 160 | |
| 145 | | | | + | 150 | | ++ m | | ot e e | | | ace | t.t.a | aca | | 528 |
| agt | tca | ctg | greg | Con | Dro | Can | TAN | Ala | Δla | Ser | Ser | Thr | Leu | Thr | gat Asp | |
| 5er | 2er | Leu | Val | 165 | | per | Deu | . Alu | 170 | | 50. | | | 175 | ; | |
| + | 0.550 | 0+0 | o to | | | cct | กลล | acc | | | . cat | aga | aat | gte | tct | 576 |
| Cca | agc | aug Mo+ | Lou | Car | Pro | Pro | Gin | Thr | Thr | Let | . His | . Arg | Asr | l Val | Ser | |
| ser | , per | Met | 180 | | 110 | , 110 | GII | 185 | | ~~~ | | c | 190 |) | | |
| aat | സ്മ | oct | cet | ี | ខេត្ត | O cca | cca | | | ggo | aat | t gca | a ggt | ggg | gatg | 624 |
| Dno | , 65a , 61v | , Δla | Pro | Glr | Are | r Pro | Pro | Ser | Thr | Gly | Ası | n Ala | a Gly | y Gly | y Met | |
| rrc |) UIY | 195 | | 0 44 | 1116 | , 110 | 200 | | | · • | | 208 | 5 | | | |
| ++0 | r adr | | | 920 | etc | aca | | | aat | t gga | a gc | t gga | a ago | ag' | t cca | 672 |
| LΩI | , asc | Thr | Thi | Ast | Lei | ı Thr | Va.] | Pro | Ası | n Gly | y Ala | a G1; | y Sei | r Se | r Pro | |
| пел | 210 | | | | , | 215 | | | | • | 22 | | | | | |
| g t s | | | gg: | ı tti | t gta | | | a aga | a gc | t tc | t cc | a aa | t tt | gat | t gga | 720 |
| υ o | 5 506 1 Gla | , aa. | - 33. 1 (Fl | y Phe | e Va | l Ası | ı Sei | r Arg | g Ala | a Se | r Pr | o As | n Le | u Il | e Gly | |
| , | _ ~ | | | | | | | - | | | | | | | | |

| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
|------------|----------------|------------|-------|---------------|--------------|----------------|--------------|-------|-------|-------|-----------|-------|--------------|-------|------------|------|
| | act | ggt | gca | aat | | tta | ggc | aaa | gtc | atg | cct | aca | aag | tct | ccc | 768 |
| Ala | Thr | Gly | Ala | Asn | Ser | Leu | Gly | Lys | Val | Met | Pro | Thr | Lys | Ser | Pro | |
| 1110 | | | | 245 | | | | | 250 | | | | | 255 | | |
| cct | cca | cca | ggt | ggt | ggt | aat | ctt | gga | atg | aac | agt | agg | aaa | cca | gat | 816 |
| Pro | Pro | Pro | Gly | Gly | Gly | Asn | Leu | Gly | Met | Asn | Ser | Arg | Lys | Pro | Asp | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| ctt | cga | gtt | gtc | atc | ccc | cct | tca | agc | aag | ggc | atg | atg | cct | cca | cta | 864 |
| Leu | Arg | Val | Val | Ile | Pro | Pro | Ser | Ser | Lys | Gly | Met | Met | Pro | Pro | Leu | |
| | | 275 | | | | | 280 | | | | | 285 | | | | 040 |
| tcg | gag | gaa | gag | gaa | ttg | gag | ttg | aac | acc | caa | agg | atç | agt | agt | tct | 912 |
| Ser | Glu | Glu | Glu | Glu | Leu | Glu | Leu | Asn | Thr | Gln | | He | Ser | Ser | Ser | |
| | 290 | | | | | 295 | | | | | 300 | | | | | 000 |
| caa | gcc | act | caa | cct | ctt | gct | acc | cca | gtc | gtg | tct | gtg | aca | acc | cca | 960 |
| Gln | Ala | Thr | Gln | Pro | | Ala | Thr | Pro | Val | | Ser | Val | Thr | ınr | 001 | |
| 305 | | | | | 310 | | | | | 315 | 4 | | - a+ | ~~~ | 320 | 1008 |
| agc | ttg | cct | ccg | caa | gga | ctt | gtg | tac | tca | gca | atg | ccg | act | gcc | Tun | 1000 |
| Ser | Leu | Pro | Pro | Gln | Gly | Leu | Val | Tyr | | | мет | rro | TIII. | 335 | 131 | |
| | | | | 325 | | | | L | 330 | | + ^ ^ | *** | att | | | 1056 |
| aac | act | gat | tat | tca | ctg | acc | agc | gct | gac | Cug | Con | , gcc | TAI | Gln | ggc Glv | 1000 |
| Asn | Thr | Asp | | | Leu | Inr | ser | 345 | | reu | 261 | MIA | . пец 350 | U I I | Gly | |
| | | | 340 | | a t c | a t m | +00 | | | ഭരണ | oto | tee | | | cag | 1104 |
| ttc | aac | tcg | cca | . gga | alg Mot | Tan | 202 | LUG | 65° | , cas | Val | Set | · Ala | Tre | cag Gln | |
| Phe | Asn | | | GIY | nec | ьец | 360 | | L UIJ | Uill | . 7 1.3.3 | 365 | | | | |
| | | 355 | | . നന് | | നാ | | | . agr | tet | ctt | | | gga | ggg | 1152 |
| cag | cac | Cac uic | Lo | i gga Lilv | , Clin | . gca . Ala | , guc Δla | . Coc | . Sei | Ser | Let | ı Val | Ala | . Gly | Gly | |
| alli | 370 | | пес | ı uıy | O III | 375 | | . Doc | | | 380 |) | | · | | |
| 220 | | | | r oot | tee | | | ı tec | ati | t aat | | | caa | aaa | atc | 1200 |
| വു | , (ta | i Car | · Glr | s ee s | , Set | Asr | Lei | Ser | · Ile | e Ası | ı Thi | r Ası | n Gli | ı Ası | n Ile | |
| 385 | | i DC1 | G I I | 1 42,5 | 390 | | | | | 395 | | | | | 400 | |
| 200 | · ato | . 225 | r tea | e gaa | | | tea | a cci | t cc | t cgs | g ga | t cg | t at | gac | c cca | 1248 |
| Sar | , acc | Lve | s Sei | r Gli | ı Pro | , al | Ser | r Pro | o Pr | o Arg | z Asj | p Ar | g Me | t Th | r Pro | |
| 501 | * * * | | , | 405 | | | • • • | . – | 41 | | | | | 41 | | |
| tee | i Sidi | tto | c cas | | | g cas | g cas | g cas | g ca | g cas | g ca | g ca | g ca | g cc, | g ccg | 1296 |
| 300 142 | , 60°, 1[1] | v Ph | - G1: | n Gli | n Gli | ı Glı | n Gl | n Gli | n Gl | n Gli | n Gl | n Gl | n Gl | n Pr | o Pro | • |
| 501 | | , | | | | | | | | | | | | | | |

| | | | 420 | | | | | 425 | | | | | 430 | | • | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|------------|----------------------|-------|--------|------|
| cça | cca | ccg | cag | ccc | cag | cca | caa | ccc | cçg | cag | ccc | cag | ccc | cga | cag | 1344 |
| | | | | | | | | Pro | | | | | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | |
| gaa | atg | ggg | cgc | tcc | cct | gtg | gac | agt | ctg | agc | agc | tct | agt | agc | tcc | 1392 |
| | | | | | | | | Ser | | | | | | | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| tat | gat | ggc | agt | gat | cgg | gag | gat | cca | cgg | ggc | gac | ttc | cat | tct | cca | 1440 |
| Tyr | Asp | Gly | Ser | Asp | Arg | Glu | Asp | Pro | Arg | Gly | Asp | Phe | His | Ser | Pro | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| | gtg | ctt | ggc | cga | ccc | cca | aac. | act | gag | gac | aga | gaa | agc | cct | tct | 1488 |
| | | | | | | | | Thr | | | | | | | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | |
| gta | aag | cga | atg | agg | atg | gac | gcg | tgg | gtg | acc | | | | | | 1521 |
| | | | | | | | | Trp | | | | | | | | |
| | • | _ | 500 | | | | | 505 | | | | | | | | |
| <21 | 0> 15 | 5 | | | | | | | | | | | | | | |
| | 1> 36 | | | , | | | | | | | | | | | | |
| <21 | 2> PI | RT | | | | | | | | | | | | | | |
| <21 | 3> He | omo | sapi | ens | | | | | | | | | | | | |
| | 0> 1 | | | | | | | | | | | | | | | |
| Met | Gly | Arg | Lys | Lys | Ile | Gln | Ile | Ser | Arg | Ile | Leu | Asp | Gln | Arg | Asn | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Arg | Gln | Val | Thr | Phe | Thr | Lys | Arg | Lys | Phe | Gly | Leu | Met | Lys | Lys | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Tyr | Glu | Leu | Ser | Val | Leu | Cys | Asp | Cys | Glu | Ile | Ala | Leu | Ile | Ile | Phe | |
| | | 35 | | | | | 40 | | | | | 4 5 | | | | |
| Asп | Ser | Ala | Asn | Arg | Leu | Phe | Gln | Tyr | Ala | . Ser | Thr | Asp | Met | . Asp | Arg | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Val | Leu | Leu | Lys | Tyr | Thr | Glu | l Tyr | Ser | Glu | Pro | His | Glu | ı Ser | Arg | Thr | |
| 65 | | • | | | 70 | | | | | 75 | | | | | 80 | |
| | | Asp | Ile | Leu | ı Glu | Thi | Leu | Lys | Arg | Arg | Gly | ı İle | e Gly | Leu | l Asp | |
| | | - | | 85 | | | | | 90 | | | | | 95 | 5 | |
| (F) v | r Pro | Glu | ı Leı | ı Glı | Pro | Ası | Glu | ı Gly | Pro | Glu | Gli | ı Pro | o Gly | glu | Lys | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Phe | . Ars | z Ara | | | a Gly | y Glu | ı G13 | Gly | ' Ası | Pro | Ala | a Le | u Pro | o Arg | ro Pro | |

| 1 | 15 | | 120 | | | 125 | |
|-----------|----------|----------------|-------------------|-----------------|------------------|-----------|------------------|
| Arg Leu T | yr Pro | Ala Ala | Pro Ala | Met Pro | Ser Pro | Asp Val | Val Tyr |
| 130 | | | 135 | | 140 | | |
| Gly Ala L | eu Pro | Pro Pro | Gly Cys | Asp Pro | Ser Gly | Leu Gly | 160 |
| 145 | | 150 | - 4 | n ni. | 155 | 11a 11a | |
| Leu Pro A | la Gln | | Pro Ser | rro rne 170 | Arg Fro | Mid Hid | 175 |
| Ala Gly P | no Dno | 165 | Val His | | | Pro Ser | His Leu |
| | 180 | | | 185 | | 190 | |
| Thr Ser I | ys Thr | Pro Pro | Pro Lev | ı Tyr Lei | ı Pro Thr | Glu Gly | Arg Arg |
| 1 | 195 | | 200 |) | | 205 | |
| Ser Asp I | Leu Pro | Gly Gly | | a Gly Pr | o Arg Gly | Gly Leu | Asn inr |
| 210 | _ | m (1 | 215 | r Cln As | 220 n Pro Cvs | | Ala Thr |
| | Ser Leu | Tyr Ser 230 | | n atti və | n Pro Cys 235 | | 240 |
| 225 | Pro Pro | Leu Gly | , Ser Ph | e Pro Ph | e Leu Pro | Gly Gly | Pro Pro |
| | | 245 | | 25 | 0 | | 200 |
| Val Gly | Ala Glu | ı Ala Trı | Ala Ar | g Arg Va | l Pro Gli | Pro Ala | Ala Pro |
| | 260 |) | | 265 | | 210 | |
| | | Pro Gl | ı Ser Al 28 | a Ser Se | er Leu Sei | 285 | Dog wwg |
| D D-0 | 275 | Pro Al | ے۔ Thr Pta Thr | oo ne Leu Al | rg Pro Se | | Pro Cys |
| 200 | | | 295 | | 30 | U | |
| Ser Ser | Pro Gl | y Pro Tr | p Gln Se | er Leu C | ys Gly Le | u Gly Pro | Pro Cys |
| 205 | | 31 | 0 | | 315 | | 320 |
| Ala Gly | Cys Pr | | o Thr A | la Gly P | ro Gly Ar | g Arg Sei | r Pro Gly 335 |
| | • 5 | 325 | Con D | | 30 br Ala Ar | g Ala Ar | g Gly Asp |
| Gly Thr | Ser Pr | | g ser r | 345 | 111 1110 111 | 35 | 0 |
| Pro Thr | Ser Le | eu Gln Al | la Ser S | | ys Thr G | ln Gln | |
| 110 1111 | 355 | | 3 | 60 | | • | |
| <210> 1 | 6 | | | | | | |
| <211> 1 | .095 | | | | | | |
| <212> D | | | | | | | |
| | lomo saj | piens | | | | | |
| <220> | | | | | | | |

| <221 | > CD | S | | | | | | | | | | • | | | | |
|-------------|-------|--------------|--------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| <223 | > (1 |)(| 1098 |) | | | | | | | | | | | | |
| <400 | > 16 | | | | | | | | | | _ | | | | 4 | 10 |
| atg | ggg | agg | aaa | aaa | atc (| cag | atc | tcc | cgc | atc | ctg | gac | caa | agg | aat | 48 |
| Met | Gly | Arg | Lys | Lys | Ile | Gln | Ile | Ser | Arg | Ile | Leu | Asp | Gln | Arg | Asn | |
| 1 | | | | 5 | | | | | 10 | | | | | ТЭ | | 0.0 |
| cgg | cag | gtg | acg | ttc | acc | aag | cgg | aag | ttc | ggg | ctg | atg | aag | aag. | gcc | 96 |
| Arg | Gln | Val | Thr | Phe | Thr | Lys | Arg | Lys | Phe | Gly | Leu | Met | Lys | Lys | Ala | |
| | | | 20 | | | | | 25 | | | | | 30 | | | 1.4.4 |
| tat | gag | ctg | agc | gtg | ctc | tgt | gac | tgt | gag | ata | gcc | ctc | atc | atc | ttc | 144 |
| Туг | Glu | Leu | Ser | Val | Leu | Cys | Asp | Cys | Glu | Ile | Ala | Leu | He | He | Phe | |
| | | 35 | ٠. | | | | 40 | | | | | 45 | | | | 1.00 |
| aac | agc | gcc | aac | cgc | ctc | ttc | cag | tat | gcc | agc | acg | gac | atg | gac | cgt | 192 |
| Asn | Ser | Ala | Asn | Arg | Leu | Phe | Gln | Tyr | Ala | Ser | Thr | . Asp | Met | Asp | Arg | |
| | 50 | | | | | 55 | | | | | 60 | | | | | 0.40 |
| gtg | ctg | ctg | aag | tac | aca | gag | tac | agc | gag | ccc | cac | gag | agc | cgc | acc | 240 |
| Val | Leu | Leu | Lys | Tyr | Thr | Glu | Tyr | Ser | Glu | Pro | His | Glu | Ser | Arg | Inr | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | 000 |
| aac | act | gac | atc | ctc | gag | acg | ctg | aag | cgg | agg | ggc | att | ggc | cto | gat | 288 |
| Asn | Thr | Asp | Ile | Leu | Glu | Thr | Leu | Lys | Arg | Arg | Gly | Ile | Gly | Let | l Asp | |
| | | | | 85 | | | | | 90 | | | | | 95 |) | |
| ggg | cça | gag | ctg | gag | ccg | gat | gaa | ggg | cct | gag | gag | cca; | gga | gag | aag | 336 |
| Gly | Pro | Glu | ı Lev | Glu | Pro | Asp | Glu | Gly | Pro | Glu | Glu | ı Pro | Gly | Gli | ı Lys | |
| | | | 100 |) | | | | 105 | | | | | 110 |) | | |
| t.t.t | CZZ | agg | g ctg | gca | ggc | gaa | ggg | ggt | gat | cce | gcc | : ttg | ccc | cga | a ccc | 384 |
| Phe | Arg | Ars | z Lei | ı Ala | Gly | Glu | Gly | Gly | ' Ası | Pro |) Ala | a Lei | ı Pro | Ar | g Pro | |
| | | 11 | วี | | | | 120 |) | | | | 123 |) | | | |
| cgg | cts | ta. | t cct | t gca | gct | cct | gct | ate | cce | c ago | c cc | a gat | t gte | g gt | a tac | 432 |
| Arg | r Lei | Tv | r Pro | 5 Ala | . Ala | Pro |) Ala | a Met | t Pr | o Sei | r Pr | o Asj | o Va | 1 Va | l Tyr | |
| | 130 | | | | | 13 | | | | | 14 | 0 | | | | |
| oros | e eco | e t.t. | a ce | e cca | i cca | gge | tg1 | t gae | c cc | c ag | t gg | g ct | t gg | g ga | a gca | 480 |
| 61s | z Ala | a Le | u Pr | o Pro | o Pro | Gly | y. Cy: | s As | p Pr | o Se | r Gl | y Le | u Gl | y Gl | u Ala | L |
| 14 | | . DV | u ,1 - | | 150 | | | | | 15 | 5 | | | | 160 |) |
| 7.17 | a | ሶ ወቦ | ሮ ሮጳ | g አድ | | | a tc | t cc | c tt | c cg | a cc | a gc | a gc | с сс | c aaa | a 528 |
| ان ت تما | n Dr | 0 60 0 11 | a G1 | n Se | r Ari | g Pr | o Se | r Pr | o Ph | e Ar | g Pr | o Al | a Al | a Pr | o Lys | 5 |
| ъe | u fi' | O AI | LU UL | 16 | | - ^ · | | | 17 | 0 | | | | 17 | '5 | |
| | - | | | 10 | • | | | | | | | | | | | |

| ac.c | ው ው ው | ccc | cca | ggc | ctg | gtg | cac | cct | ctc | ttc | tca | cca | agc | cac | c. | tc | 576 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|--------------|----------------|---------------|------------|-------|--------------|------------|------|
| Δĺa | 61v | Pro | Pro | Glv | Leu | Val | His | Pro | Leu | Phe | Ser | Pro | Ser | His | L | eu | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |
| acc | agc | aag | aca | cca | ccc | cca | ctg | tac | ctg | ccg | acg | gaa | ggg | cgg | a | gg | 624 |
| Thr | Ser | Lys | Thr | Pro | Pro | Pro | Leu | Tyr | Leu | Pro | Thr | Glu | Gly | Arg | A | rg | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | 050 |
| tca | gac | ctg | cct | ggt | ggc | ctg | gct | ggg | ccc | cga | ggg | gga | cta | aac | : a | cc | 672 |
| Ser | Asp | Leu | Pro | Gly | Gly | Leu | Ala | Gly | Pro | Arg | Gly | Gly | Leu | Asn | 1 T | hr | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | 700 |
| tcc | aga | agc | ctc | tac | agt | ggc | ctg | cag | aac | ccc | tgc | tcc | act | gca | 1 a | ict | 720 |
| Ser | Arg | Ser | Leu | Tyr | Ser | Gly | Leu | G1n | Asn | Pro | Cys | Ser | Thr | Ala |) . 1 | mr | |
| 225 | | | | | 230 | | | | | 235 | | | | | 4 | 240 | 700 |
| ccc | gga | ccc | cca | ctg | ggg | agc | ttc | ccc | ttc | ctc | ccc | gga | ggc | CCC | е с . т | eca N | 768 |
| Pro | Gly | Pro | Pro | Leu | Gly | Ser | Phe | Pro | Phe | Leu | Pro | Gly | GLY | Pre | 1 0 | ro | • |
| | | | | 245 | | | | | 250 | | | | | ∠5: | o | | 816 |
| gtg | ggg | gcc | gaa | gcc | tgg | g¢g | agg | agg | gtc | ccc | caa | CCC | gcg | gc; | g. (| Duo Duo | 010 |
| Val | Gly | Ala | Glı | ı Ala | Trp | Ala | Arg | Arg | Val | Pro | GII | Pro | 076 076 | l Al | a. | 1.0 | |
| | | | 260 |) . | | | | 265 | | | | | 270 | | c | a d'a | 864 |
| ccc | cgc | cga | a cco | CCC | cag | tca | , gca | tca | . agt | ctg | ago | gc. | S Col | a Ta | 11 | ∨65 ∆ro | 004 |
| Pro | Arg | , Ar | g Pro |) Pro | Gln | Ser | Ala | . Ser | Ser | reu | 7e1 | 28! | 1 36 | . пс | u | M 5 | |
| | | 27 | 5 | | | | 280 | | | | + 4 - | | | e | + | tøc | 912 |
| ccc | c ccs | gg | g. gc | c ccg | g gcg | act | tt(| cta | aga | L CCI | , נכו פי | n Dro | cac cal | o Dr | ייי | Cvs | V12 |
| Pro | o Pro | G GI | y Ala | a Pro | o Ala | | | e Leu | I Are | rre | 30 | ν Γ ΙΙ. | יי ט | | • | 0,0 | |
| | 290 | 0 | | | | 295 | | | . + | ~ ~~ | | | r. r.e | or () | 20 | tec | 960 |
| tc | c te | g cc | c gg | t cc | c tgg | g cas | g ago | c cto | . cgc | . 61. | τια στα | 5 55 11 Gl | v Pr | o Pi | സ | Cvs | |
| Se | r Se | r Pr | o G1 | y Pr | | | 1 26 | r Let | ı cy: | 31 | у пе | u uı | , | V 1. | . • | 320 | |
| 30 | 5 | | | | 31 |) | | + ~~ | | | | o 20 | a t.o | a c | cc | | 1008 |
| gc | c gg | c tg | c cc | t tg | g cc | g ac | ggc | t gg | u ÇÇ | ∨ 85 ∧ 61 | u αξ v Δn | o Ar | er Se | r P | ro | Gly | |
| Αl | a Gl | у Су | 's Pr | | | o in | r vi | a Gl | у гі 33 | V AT | y Al | 6 111 | 5 0 | 3 | 35 | | |
| | | | | 32 | 5 | L . | | | | | ഗ വ | ים סר | a ce | | | gac | 1056 |
| gg | c ac | c ag | c cc | a ga | gcg | c tc | g cc | a gg | tat v Th | g go n Al | 5, αυξ 3 Δτ | 55 5 50 A | la Ai | re G | lv | asA | |
| G] | y Th | ır Se | | | u Ar | g Se | r Pr | o Gl | e À III | r vi | u Ai | S A | 3! | 50 | ~ • | | |
| | | | 34 | | | | 1 f. | 34 | | ar na | 0.00 | a | | . • | | | 1095 |
| C | c ac | ec to | 20 C1 | te ca | ig go | c to | t t0 | a ga | ,, T., | 15 ac | n G | ln G | ~5 In | | | | |
| Pi | ro Th | | | eu G. | n Al | a 56 | | er Gl | u "Ly | S 11. | ıı U. | 31 | 65 | | | | |
| | | 3. | 55 | | | | 36 | V | | | | J | | | | | |

| <210> | 17 | | | | | | | | | | | | | | |
|-------|-----------|-------|----------|---------------------|-----------|-----------------|-----------------|-------------|-------|---------------|-----------|-------|-------|------|-----------|
| <211> | | | | | | | | | | | | | | | |
| <212> | | | | | | | | | | | | | | | |
| <213> | | | apie | ns | | | | | | | | | | , | |
| <400> | 17 | | _ | _ | | 01 – | [] | r hn | A nor | ו בוד | Mot | Asn | Glu | Arg | Asn |
| Met G | ly | Arg | Lys | | 11e | GIII | 116 | ini | 10 | 116 | LIC C | Mob | VIU | 15 | |
| 1 | | | | 5 | | Τ | | | | Q1 v | Υ.ρ.ι | Met | Lvs | | Ala |
| Arg 0 | ln | Val | | Phe | Inr . | ràs . | AI'g | цуя. 25 | I He | uly | БСФ | 1100 | 30 | _• | |
| | | | 20 | 17 7 | 7 | 0 | Aan I | | Glu | Tle | Ala | Leu | | Ile | Phe |
| Tyr (| | 35 | | | | | 40 | | | | | 45 | | | |
| Asn S | Ser 50 | Thr | Asn | Lys | Leu | Phe 55 | Gln | Tyr | Ala | Ser | Thr 60 | Asp | Met | Asp | гàг |
| Val 1 | Leu | Leu | Lys | Tyr | | Glu | Tyr | Asn | Glu | Pro 75 | His | Glu | Ser | Arg | Thr 80 |
| 65 | | 4 | т1. | TI _n .II | 70 Glu | ጥኤ _ጥ | Len | Δrσ | Lvs | | Gly | Leu | Asn | Gly | Cys |
| Asn | Ser | Asp | TTE | va. 85 | | 1111 | рси | W P | 90 | 11 0.0 | | | | 95 | |
| | g | D-a | ٨٥٣ | OU Dro | Asp | Δla | Asp | Asp | | Val | Gly | His | Ser | Pro | Glu |
| Asp | eı. | rro | 100 | | лор | 1110 | no _F | 105 | | | | | 110 | | |
| Can | 61., | ۸ar | 100 | ጥvኮ | Arg | Lvs | Ile | | Glu | Asp | Ile | Asp | Leu | Met | Ile |
| ser | uıu | 115 | | . 171 | | | 120 | | | | | 125 | | | • |
| Can | Ana | . Glr | , Are | r Leu | Cvs | Ala | Val | Pro | Pro | Pro | Asn | Phe | Glu | Met | Pro |
| 261 | 130 | | | , 20 | | 135 | | | | | .140 |) | | | |
| Val | Ser | • 116 | e Pro | val | Ser | Ser | His | Asn | Ser | Leu | l Val | Tyr | Ser | Asr | Pro |
| 1/15 | | | | | 150 | | | | | 155 |) | | | | 100 |
| Val | Ser | · Se | r Lei | u G15 | , Asn | Pro | Asn | Leu | Leu | Pro | Let | ı Ala | ı His | Pro | Ser |
| | | | | 165 | ว์ | | | | 170 |) | | | | 1/1 |) |
| Leu | Gli | n Ar | g Asi | n Sei | r Met | : Ser | Pro | Gly | v Vaj | Thi | His | s Ar | g Pro |) Pr | o Ser |
| | | | 18 | 0 | | | | 185 |) | | | | 19 | J | |
| Ala | Gl | y As | n Th | r Gl | y Gly | , Lei | ı Met | Gly | Gly | y As | p Le | u Th | r Se | r Gl | y Ala |
| | | 19 | 5 | | | | 200 |) | | | | 20 | อ | | |
| Gly | Th | r Se | r Al | a G1 | y Ası | n Gl | у Туг | G1; | y Asi | n Pr | o Ar | g As | n Se | r Pr | o Gly |
| | 21 | ብ | | | | 219 | 5 | | | | 22 | U | | | |
| Leu | ı Le | u Va | al Se | r Pr | o Gl | y Asi | n Lei | ı Ası | n Ly | s As | n Me | t Gl | n Al | a Ly | s Ser |
| 225 | | | | | 23 | 0 | | | | 23 | 5 | | | | 240 |
| Pro | o Pr | o Pi | ro Me | et As | n Le | u Gl | y Me | t As | n As | n Ar | g Ly | s Pr | o As | p Le | u Arg |
| | | | | | | | | | | | | | | | |

| | | | | 245 | | | | | 250 | | | | | 255 | |
|-----|-------|-------------|------------|-------|------------------|-------|------------|------------|------|-------|-------|-------|-------|-------|-------|
| 7.1 | ۲ | T] _ | Dno | Pro | ្តា _ប | Ser | ZV. | | | | Pro | Ser | Val | Asn | Gln |
| val | геп | He | | 110 | GIY | BOI . | | 265 | | | | | 270 | | |
| | TT. | A | 260 | Ser | Gln | 702 | | | Ser | Leu | Ala | Thr | Pro | Val | Val |
| Arg | 116 | | ASII | 261 | GIII | | 280 | 411 | | | • | 285 | | | • |
| C | v. 1 | 275 | ጥኤኤ | Pro | Thr | | | Glv | Gln | Gly | Met | Gly | Gly | Tyr | Рго |
| 2er | | Ala | IIII | 110 | | 295 | 110 | 41, | V-1 | | 300 | • | | | |
| g | 290 | * 1^ | Can | Thr | ጥኪr | Tyr | GIV | Thr | Glu | Tvr | Ser | Leu | Ser | Ser | Ala |
| | Ala | 116 | per | 1111 | 310 | 131 | W T D | | _,, | 315 | | | | | 320 |
| 305 | T | C.0.2 | Can | Leu | Sar | Glv | Phe | Asn | Thr | | Ser | Ala | Leu | His | Leu |
| ASP | reu | 961 | per | 325 | BOI | 413 | A. 44 | | 330 | | | | | 335 | |
| C1 | Can | 1/2 l | Thr | Gly | Trn | GIn | Gln | Gln | | | His | Asn | Met | Pro | Pro |
| ΩТЪ | 261 | 4 Œ I | 340 | 013 | пр | ′ | 4 - | 345 | | | | | 350 | | |
| Can | Δla | Len | oro na2 | Gln | Leu | Glv | Ala | | Thr | Ser | Thr | His | Leu | Ser | Gln |
| 261 | nia | 355 | | | 202 | | 360 | | | | | 365 | | | |
| Car | Sor | Acn | Leu | Ser | Leu | Pro | | Thr | Gln | Ser | Leu | Asn | Ile | Lys | Ser |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Glu | Pro | Val | Ser | Pro | Pro | Arg | Asp | Arg | Thr | Thr | Thr | Pro | Ser | Arg | Tyr |
| 385 | | | | | 390 | | | | | 395 |) | | | | 400 |
| Pro | Gln | His | Thr | Arg | His | Glu | Ala | Gly | Are | g Ser | Pro | Val | l Asp | Ser | Leu |
| | | | - | 405 | | | | | 41(|) | | | | 410 |) |
| Ser | Ser | Cys | Ser | Ser | Ser | Tyr | Asp | Gly | Sei | r Ası | Arg | g Glu | ı Asp | His | s Arg |
| | | | 420 |) | | | | 425 | 5 | | | | 430 |) | |
| Asn | Gli | ı Pho | e His | s Ser | Pro | lle | e Gly | Lei | ı Th | r Ar | g Pro | s Se | r Pro |) Asj | o Glu |
| | | 43 | วี | | | | 44(|) | | | | 44 | b | | |
| Arg | g Glu | i Se | r Pro | s Ser | · Val | Lys | s Ar | g Me | t Ar | g Le | u Se | r Gl | u Gl | y Tr | p Ala |
| | 450 | | | | | 455 | | | | | 46 | 0 | | | |
| Thi | ŗ | | | | | | | | | | | | | | |
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| <2 | 21> | CDS | | | | | | | | | | | | | |
| <2 | 23> | (1). | .(13 | 98) | | | | | | | | | | | |
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| atg | | | | | | a++ | 424 | 2++ | മറ | e a | ያያ : | att | atg | ga | t g | aa | cgt | aa | ıc | 4 8 |
|------------|------|-----|----------|---------|-------------------|----------------|---------------|-------------|------------|-----------|---------------|---|-------|---------|----------------|----------|-------|------|--------------|------------|
| atg Met | ggg | ag | sa a | iaa | aag | Tia | Gln | Tle | Th | ir A | rg | Ile | Met | As | рG | lu | Arg | ; As | \mathbf{n} | |
| | Gly | Aľ | rg 1 | _ys | _ | 116 | 0111 | 110 | . 111 | | 10 | | • | | _ | | 15 | ; | | |
| l aga | | . 1 | 1 | | 5 +++ | 000 | 220 | 200 | raa | a 1 | | ggg | ttg | at | ga | ag | aag | g | ct | 96 |
| aga | cag | gı | tg a | aca | Dha | Thr | Ive | Are | Lx | 79 T | he | Gly | Leu | Me | t L | ys | Lys | s A | la | |
| Arg | Gin | Vā | аI | | rne | 1111 | пуэ | M E | , 11, | 25 | | | | | | 30 | | | | |
| | | · | 4 | 20 | ~+ c | ctg | + + + | gar | | | gag | att | gcg | ct | ga | ıtc | ato | t | t¢ | 144 |
| tat | gag | ; C | tg | agc | g Lg | Leu | Cve | Ast | . C: | vs i | Glu | Ile | Ala | ιLe | eu J | (1e | Π | e P | he | |
| Tyr | GIU | | | er. | Val | Dea. | U) S | 4(| , ,) | , • | | | | 4 | 1 5 | | | | | |
| | | | 35 | | 000 | ctg | ++7 | | | at. | gcc | agc | aco | ga | ac a | atg | ga | са | aa | 192 |
| aac. | ago | a. | CC | aac | aag | Leu | Dha | GI: | ъ o n T | ۷r | Ala | Ser | Thi | r As | sp l | Met | As | рL | ys | |
| Asn | | | nr | ASII | гуз | rea | 55 | | | J . | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 61 |) | | | | | | |
| | 50 |) | | | +00 | acg | ່ດລາ | , ta | c a | ac | eag | CCE | ca | t g | ag : | agc | cg | ga | ıca | 240 |
| gtg | ct | t c | TC | aag | uac T | Thr | gas Cli | , Tv | r A | sn. | Glu | Pro | Hi | s G | lu | Ser | Ar | g J | hr | |
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| As | | | m 2e | i. Vi | a no | 21 | | u o, | | • •• | . 22 | 20 | | | | | |
| | 21 | .U | .+ | + ^ | יי לי | | | t gg | e et | .c ct | | | tg g | cc a | aat | ggc | 720 |
| ta | c gi | c ag | st go | in de In Ai | 55 5° | la Se | r Pr | o Gl | v Le | u Le | eu Pi | ro Va | al A | la 1 | Asn | Gly | |
| | | rr 96 | 51° A. | ıa Ki | 23 | | | | ., | 23 | 35 | | | | | 240 | |
| 22 | 50 50 | *a a4 | ta a | ar 2 | | | te en | et go | c aa | | | cg c | cc c | ca | cct | t acc | 768 |
| aa | ic as | SU UI | va di | ac ac | ve V | al I | le Pr | o Al | la Ly | 75 S | er P | ro P | ro P | ro | Pro | o Thr | |
| A. | sti 26 | ar. De | eu A | ת זוכ | y 5 7 1 | I. | | | | | | | | | | | |

| | | | | 245 | | | | | 250 | | | | | 255 | | |
|-------|------|-------|-------------------------------|------|-------|-----------------|----------|-------|-----|---------|-----|---------------|----------|-------|------------|------|
| | | | cag | | | | | | | | | | | | | 816 |
| His | Ser | Thr | Gln | Leu | Gly | Ala | Pro | Ser | Arg | Lys | Pro | Asp | | Arg | Val | |
| | | | 260 | | | | | 265 | | | | | 270 | | | 004 |
| | | | cag | | | | | | | | | | | | | 864 |
| He | Thr | Ser | Gln | Ala | Gly | Lys | | Leu | Met | His | His | | Thr | Glu | Asp | |
| | | 275 | | | | | 280 | | | | | 285 | | | | 010 |
| | | | $\operatorname{\mathtt{ctg}}$ | | | | | | | | | | | | | 912 |
| | | Asp | Leu | Asn | Asn | | Gln | Arg | Leu | Gly | | Ser | Gin | Ser | Inr | |
| | 290 | | | | | 295 | | | | | 300 | _ | - | ++ - | 44.5 | 960 |
| | | | acc | | | | | | | | | | | | | 900 |
| | Ser | Leu | Thr | Thr | | Val | Val | Ser | val | | Inr | Pro | ser. | ren | 320 | |
| 305 | | | | | 310 | 1.4 | 4 | _ 4 | | 315 | | +00 | 000 | ánn | | 1008 |
| | | | ctc | | | | | | | | | | | | | 1000 |
| Ser | GIn | Gly | Leu | | rne | 261. | ger. | met | 330 | I IIII. | MIa | Tyr. | ASII | 335 | пэр | · |
| | | | | 325 | | eto e | a+ a | + 00 | | ++ a | 002 | acc | +++ | | tca | 1056 |
| | | | acc Thr | | | | | | | | | | | | tca Ser | 1400 |
| ТУГ | UIII | ren | 340 | Set. | Mia | uru | nea | 345 | UCI | Dou | 110 | ,,,, <u>~</u> | 350 | 501 | | |
| act | aca | a a a | | tro | cta | ያ ያር | aat. | | act | gcc | tgg | caa | | cca | cag | 1104 |
| | | | | | | | | | | | | | | | Gln | |
| 110 | ulj | 355 | БСи | 501 | Вод | 41, | 360 | | | | | 365 | | | | |
| ഭമഴ | ccc | | cag | ccg | cag | cag | | | cct | cca | cag | cag | cag | cca | ccg | 1152 |
| | | | | | | | | | | | | | | | Pro | |
| G 111 | 370 | | | | | 375 | | | | | 380 | | | | | |
| cag | | cag | cag | cca | cag | cca | cag | çag | cct | cag | cag | ccg | caa | cag | cca | 1200 |
| | | | | | | | | | | | | | | | Pro | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| cct | cag | caa | cag | tcc | cac | ctg | gtc | cct | gta | tct | ctc | agc | aac | ctc | atc | 1248 |
| | | | | | | | | | | | | | | | lle | |
| | | | | 405 | | | | | 410 | | | | | 415 | í | |
| ccg | ggc | agc | ccc | ctg | ccc | cac | gtg | ggt | gct | gcc | cto | aca | gto | acc | acc | 1296 |
| | | | | | | | | | | | | | | | Thr | |
| | | | 420 | | | | | 425 | | | | | 430 | | | |
| cac | ccc | cac | ato | ago | ato | aag | ; tca | ı gaa | ccg | gte | tcc | cca | ago | cgt | gag | 1344 |
| His | Pro | His | Ile | Ser | · Ile | Lys | Ser | Glu | Pro | Val | Ser | Pro | Ser | · Arg | g Glu | |
| | | | | | | | | | | | | | | | | |

| | | 435 | | | | | 440 | | | | | 445 | | | | |
|-----|-------|-------|-------|-------------|----------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------|
| ege | | | gcg | cct | ccc | cct | cca | gct | gtg | ttc | ccá | gct | gcc | cgc | cct | 1392 |
| Arg | Ser | Pro | Ala | Pro | Pro | Pro | Pro | Ala | Val | Phe | Pro | Ala | Ala | Arg | Pro | |
| • | 450 | | | | | 455 | | | | | 460 | | | | | |
| gag | cct | ggc | gat | ggt | ctc | agc | agc | cca | gcc | ggg | gga | tcc | tat | gag | acg | 1440 |
| | | | | Gly | | | | | | | | | | | | |
| 465 | | | _ | | 470 | | | | | 475 | | | | | 480 | |
| | gac | cgg | gat | gac | gga | cgg | ggg | gac | ttc | ggg | ccc | aca | ctg | ggc | ctg | 1488 |
| Gly | Åsp | Arg | Asp | Asp | Gly | Arg | Gly | Asp | Phe | Gly | Pro | Thr | Leu | Gly | Leu | |
| • | _ | | - | 485 | | | | | 490 | | | | | 495 | | |
| ctg | cgc | eca | gcc | cca | gag | cct | gag | gct | gag | ggc | tca | gct | gtg | aag | agg | 1536 |
| Leu | Arg | Pro | Ala | ${\tt Pro}$ | Glu | Pro | G1u | Ala | Glu | Gly | Ser | Ala | Val | Lys | Arg | |
| | | | 500 | | | • | | 505 | | | | | 510 | | | |
| atg | cgg | ctt | gat | acc | tgg | aca | tta | aag | | | | | | | | 1563 |
| Met | Arg | Leu | Asp | Thr | Trp | Thr | Leu | Lys | | | | | | | | |
| | | 515 | | | | | 520 | | | | | • | | | | |
| <21 | 0> 2 | 1 | | | | | | | | | | | | | | |
| <21 | 1> 2 | 17 | | | | | | | | | | | | | | |
| <21 | 2> Pl | RT | | | | | • | | | | | | • | | | |
| <21 | 3> R | attu | s no | rveg | icus | | | | | | | | | | | |
| | 0> 2 | | | | | | | | | | | | | | | |
| Met | Ser | Leu | Val | Gly | G1y | Phe | Pro | His | His | Pro | Val | Val | His | | | |
| 1 | | | | 5 | | | | | 10 | | _ | | | 15 | | |
| Gly | Туг | Pro | Phe | Ala | Ala | Ala | Ala | Ala | Ala | . Ala | . Ala | Ala | , Ala | . Ala | . Ala | |
| | | | 20 | | | • | | 25 | | | | | 30 | | T 1 | |
| Ser | Arg | Cys | Ser | His | Glu | Glu | Asn | Pro | Tyr | Phe | His | | | Leu | Ile | |
| | | 35 | | | | | 40 | | | | | 45 | | _ | _ | |
| Gly | His | Pro | Glu | ı Met | Ser | Pro | Pro | Asp | Tyr | Sei | | | L Lei | ı Ser | Туг | |
| | 50 | | | | | 55 | | | | | 60 | | _ | | _ | |
| Ser | · Pro | Gli | ı Tyr | Ala | . Ser | Gly | Ala | . Ala | Gly | | | His | s Sei | His | туг | |
| 68 | | | | | 70 | | | | | 75 | | | 4.7 | | .80 | |
| Gly | g Gly | v Val | Pro | Pro | Gly | Ala | ı Gly | Pro | Pro | Gly | z Lei | ı Gly | 7 GI | | Arg | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | o Val | Lys | s Are | g Arg | Gly | Thr | Ala | . Asr | ı Arg | g Lys | s Glu | ı Arş | | | g Thr | |
| | | | 100 | | | | | 105 | | | | | 11 | | | |
| Gli | n Ser | · Ile | e Ası | n Ser | Ala | ı Phe | e Ala | ı Glı | ı Let | ı Ar | g Gl | a Cy: | s Il | e Pro | o Asn | |

| | | 115 | | | | | 120 | | | | | 125 | | | | | |
|-----------------|-------------|----------------|---------------|------------|-------|---------|-------|-------|-------|------|-------|------------|------------|------|-----|-------|-----|
| Val | Pro | Ala | Asp | Thr | Lys | Leu | Ser | Lys | Ile | Lys | Thr | Leu | A : | rg I | eu, | Ala | |
| | 130 | | | | | 135 | | | | | 140 | l | | | | | |
| Thr | Ser | Tyr | Ile | Ala | Tyr | Leu | Met | Asp | Leu | Leu | Ala | Lys | A | sp A | Sp | Gln | |
| 145 | | | | | 150 | | | | | 155 | | | | | | Tpn | |
| Asn | Gly | Glu | Ala | Glu | Ala | Phe | Lys | Ala | Glu | Ile | Lys | Lys | T | hr A | Asp | Val | |
| | | | | 165 | | | | | 170 | | | | | - | 175 | | |
| Lys | ${\tt Glu}$ | Glu | Lys | Arg | Lys | Lys | Glu | | Asn | Glu | . 116 | e Leu | LL | ys i | ser | Inr | |
| | | | 180 | | | | | 185 | | | m1 | 01. | | .90 | n | Cla | |
| Val | Ser | Ser | Asn | Asp | Lys | Lys | | Lys | Gly | Arg | Thi | 613 | 7 1 | rp i | Pro | GIII | |
| | | 195 | | | | | 200 | | | | | 208 |) | | | | |
| His | Val | Trp | Ala | Leu | Glu | | Lys | Gln | | | | | | | | | |
| | 210 | | | | | 215 | | | | | | | | | | | |
| | 0> 2 | | | | | | | | | | | | | | | | |
| | 1> 6 | | | | | | | | | | | | | | | | |
| | 2> D | | | | | | | | | | | | | | | | |
| | | attu | s no | rveg | cus | | | | | | | | | | | | |
| <22 | | n a | | | | | | | | | | | | | | | |
| | 1> 0 | | 1651 | 1 | | | | | | | | | | | | | |
| | | | (654 | ÷ <i>)</i> | | • | | | | | | | | | | | |
| <40 | 10> 2 | , <i>L</i> | + of | r orore | , 000 | • t.t.f | ccc | ca.c | cac | c cc | c gt | g gt | g | cac | cat | gag | 48 |
| a.∪g Mod | . Car | , CO | s 5∨6 ıVal | i Gla | , 611 | , Phe | Pro | His | s His | s Pr | o Va | ıl Va | ıl | His | His | Glu | |
| rie (| | ш | ı va. | [| | | | | 1 | 0 | | | • | | 15 | | |
| Q.Q.(| ta: | e ee | g tte | | | a gco | gca | a gc | g gc | c gc | t go | et go | ŧ | gcc | gcc | gcc | 96 |
| 61 ₇ | z Tv | r Pr | o Pho | e Ala | a Ala | a Ala | ı Ala | a Ala | a Al | a Al | a Al | la A] | la | Ala | Ala | . Ala | |
| | | | 2 | 0 | | | | 2 | 5 | | | | | 30 | | | |
| a.g. | e eg | c tg | c ag | t cad | c ga | g gas | g aa | c cc | c ta | t tt | c ca | ac g | g c | tgg | ctt | att | 144 |
| Se | r Ar | g Cy | s Se | r Hi | s Gl | u Gli | u Ası | n Pr | о Ту | r Ph | e H | is G | lу | Trp | Let | ı Ile | |
| | | 3 | 5 | | | | 4 | 0 | | | | • | 4 5 | | • | | |
| gg | с са | c cc | g ga | g at | g tç | g cc | e cc | c ga | c ta | c ag | gc a | tg g | cc | ctg | tco | tac | 192 |
| Gl | y Hi | s Pr | o G1 | u Me | t Se | r Pr | o Pr | o As | р Ту | r Se | er M | et A | la | Leu | Sei | r Tyr | l |
| | 5 | 0 | | | | 5 | 5 | | | | | 60 | | | | | |
| ag | t co | c ga | ıg ta | c gc | c ag | c gg | t gc | c gc | g ge | se e | tg g | ac c | ac | tcc | ca | t tat | 240 |
| Se | r Pr | o G | lu Ty | r Al | a Se | r Gl | y Al | a Al | a G | ly L | eu A | sp H | îs | Ser | Hi | s Tyl | |
| | 5 | | | | | '0 | | | | • | 75 | | | | | 80 |) |

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| ggg | gga | gtg | ccg | ccc | ggt | gcc | ggg | cct | ccc | ggc | ctg | ggg | ggg | ccg | cgc | 288 |
|--------------|-------|--------------|------------|-----------|------------------|--------|------|-------|-----------|------|-----------|-------|-------|-----------|-------|------------|
| Gly | Gly | Val | Pro | Pro 85 | Gly | Ala | Gly | Pro | Pro 90 | Gly | Leu | Gly | Gly | Pro 95 | Arg | |
| იით | oto | ลลฮ | cgt. | cgg | aac | acc | gcc | aac | cgc | aag | gag | cgg | cgc | agg | act | 336 |
| Pro | Val | Lvs | Arg | Arg | Gly | Thr | Ala | Asn | Arg | Lys | Glu | Arg | Arg | Arg | Thr | |
| | 1001 | цуо | 100 | 0 | | | | 105 | • | | | | 110 | | | |
| റമള | agc | atc | | agc | gcc | ttc | gcc | gag | ctg | cgc | gag | tgc | atc | ccc | aac | 384 |
| Gln | Ser | Ile | Asn | Ser | Ala | Phe | Ala | Glu | Leu | Arg | Glu | Cys | Ile | Pro | Asn | |
| ~ , . | | 115 | | | | | 120 | | | | | 125 | | | | |
| gtg | ccc | gcc | gac | acc | aaa | ctc | tcc | aaa | atc | aag | act | ctg | cgc | ctg | gcc | 432 |
| Val | Pro | Ala | Asp | Thr | Lys | Leu | Ser | Lys | Ile | Lys | Thr | Leu | Arg | Leu | Ala | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| acc | agc | tac | atc | gcc | tac | ctc | atg | gat | ctg | ctg | gcc | aag | gac | gac | cag | 480 |
| Thr | Ser | Tyr | Ile | Ala | Tyr | Leu | Met | Asp | Leu | Leu | Ala | . Lys | Asp | Asp | Gln | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | 500 |
| aac | gga | gag | gcg | gag | gcc | ttc | aag | gcg | gag | atc | aag | aag | acc | gac | gtg | 528 |
| Asn | Gly | Glu | Ala | Glu | Ala | Phe | Lys | Ala | | | Lys | Lys | Thr | Asp | Val | • |
| | | | | 165 | | | | | 170 | | | | | 175 | | E76 |
| aaa | gag | gag | aag | agg | aag | aaa | gag | ctg | aat | gaa | ato | ttg | aaa | i agt | aca | 576 |
| Lys | Glu | Glu | Lys | Arg | Lys | Lys | Glu | | | Giu | 1 116 | e Leu | L Lys | s sei | Thr | |
| | | | 180 | | | | | 185 | | | | | 190 | | | 624 |
| gtg | ago | ago | aac | gac | aag | aaa | acc | aaa | ggo | cgg | aca me | a gg(| . The | Desc | cag | ULT |
| Val | Ser | | | Asp | Lys | Lys | | | GIY | Arg | Z 1111 | 209 | |) II(| Gln | |
| | | 195 | | | | | 200 | | _ | | | 200 | | | | 651 |
| | | | | ctg | | | | | | | | | | | | 001 |
| His | | |) Ala | a Lei | 1 G11 | | | 5 UII | 1 | | | | | | | |
| | 210 | | | | | 215 |) | • | | | | | | | | |
| | 10> 2 | | | | | | | | | | | | | | | |
| | 11> 2 | | | | | | | | | | | | | | | |
| | 12> 1 | | | iona | | | | | | | | | | | | |
| | | Homo | Sap | 16112 | | | | | | | | | | | | |
| 〈 41 | 00> 1 | ۷٥ صالحا | u Va | 1 GI- | v S _A | r Tv | r Al | a Hi: | s Hi | s Hi | s Hi | s Hi | s Hi | s Hi | s Pro | |
| | | пъс | u va | | , sc 5 | , AJ | . , | | 1 | | | | | 1 | 5 | |
| u: | 2 D2 | ο λ Τ | a Hi | | | t. T.e | u Hi | s Gl | | | e Le | u Ph | e Gl | y Pr | o Ala | |
| nı | ⇒ II. | O MI | a 111 2 | | J 110 | 110 | | 2 | | | | • | 3 | 30 | | |
| | | | | | | | | _ | | | | | | | | |

| Ser | Arg | Cys 35 | His | Gln | Glu | Arg | Pro 40 | Туг | Phe | Gln | Ser | Trp 45 | Leu | Leu | Ser | |
|-----------|------------|------------|------------|-----------|-----------|---------------|------------|--------|-----------|-----------|-----------|-----------|---------|-------------|------------|----|
| Pro | Ala 50 | Asp | Ala | Ala | Pro | Asp 55 | Phe | Pro | Ala | Gly | Gly 60 | Pro | Pro | Pro | Ala | |
| Ala 65 | | Ala | Ala | Ala | Thr 70 | Ala | Tyr | Gly | Pro | Asp 75 | Ala | Arg | Pro | Gly | Gln 80 | |
| Ser | Pro | Gly | Arg | Leu 85 | G1u | Ala | Leu | Gly | Gly 90 | Arg | Leu | Gly | Arg | Arg 95 | Lys | |
| | | | Pro 100 | | | | | 105 | | | | | 110 | | | • |
| | | 115 | Glu | | | | 120 | | | | | 125 | | | | |
| | 130 | | Lys | | | 135 | • | | | | 140 | | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | Glu 160 | |
| | | | Ala | 165 | | | | | 170 | | | | | 175 | | |
| | | | Glu 180 | | | | | 185 | | | | | 190 | | | |
| Pro | Val | Glu 195 | Lys | Arg | Ile | Lys | Gly 200 | | Thr | Gly | Trp | 205 | | Gin | val | |
| Trp | Ala 210 | | Glu | Leu | Asn | Gln | • | | | | | | | · | | |
| | 0> 2 | | | | | | | | | | | | | | | |
| | 1> 6 | | | | | | | | | | | | | | | |
| | 2> D | | sapi | anc | | | | | | | | | | | | |
| <22 | | | Sapi | CIIO | | | | | | | | | | | | |
| | 1> (| DS | | | | | | | | | | | | | | |
| | | | (648 | 3) | | | | | | | | | | | | |
| <40 | 0> 2 | 24 | | | | | | | | | | | | | | |
| atg | aac | cto | gtg | ggo | ago | tac | gca | cac | cat | t cac | cac | ca | t cac | cac | ccg | 48 |
| | | ı Let | ı Val | | | Туг | · Ala | a His | | | s His | s Hīs | s His | 8 His 18 | Pro | |
| 1 | | L | | | | . المهر | | | 10 | | o cti | · ++ | n grant | | g gcc | 96 |
| ്ര | ነ ዕር1 | r gcs | z cac | : ccc | : all£ | ζ ÇU (| י עמו | , ടൂവർ | a ccc | - 66 | . UU | J (100) | V 55 | U U U E | , 500 | |

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| His | Pro | Ala | His 20 | Pro | Met | Leu | His | Glu 25 | Pro | Phe | Leu | Phe | Gly 30 | Pro | Ala | |
|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----|
| | - | | | | | | | | | | | | | ctg Leu | | 144 |
| | | 35 | | | | | 40 | | | | | 45 | | | | 100 |
| _ | - | | | | | | | | | | | | | ccc | _ | 192 |
| Pro | Ala. 50 | Asp | Ala | Ala | Pro | Asp 55 | Phe | Pro | Ala | Gly | Gly 60 | Pro | Pro | Pro | Ala | |
| gcc | gct | gca | gcc | gcc | acc | gcc | tat | ggt | cct | gac | gcc | agg | cct | ggg | cag | 240 |
| Ala 65 | Ala | Ala | Ala | Ala | Thr 70 | Ala | Tyr | Gly | Pro | Asp 75 | Ala | Arg | Pro | Gly | Gln 80 | |
| agc | ccc | ggg | cgg | ctg | gag | gcg | ctt | ggc | ggc | cgt | ctt | ggc | cgg | cgg | aaa | 288 |
| Ser | Pro | Gly | Arg | Leu 85 | Glu | Ala | Leu | Gly | Gly 90 | Arg | Leu | Gly | Arg | Arg 95 | Lys | |
| ggc | tca | gga | ccc | aag | aag | gag | cgg | aga | cgc | act | gag | agc | att | aac | agc | 336 |
| Gly | Ser | Gly | Pro | Lys | Lys | Glu | Arg | Arg | Arg | Thr | Glu | Ser | He | Asn | Ser | |
| | , | | 100 | | | | | 105 | | | | | 110 | | | |
| | | | | | | | | | | | | | | gac | | 384 |
| Ala | Phe | Ala 115 | Glu | Leu | Arg | Glu | Cys 120 | Ile | Pro | Asn | Val | Pro 125 | Ala | Asp | Thr | |
| aag | ctc | tcc | aag | atc | aag | act | ctg | cgc | cta | gcc | acc | agc | tac | atc | gcc | 432 |
| Lys | Leu 130 | Ser | Lys | Ile | Lys | Thr 135 | Leu | Arg | Leu | Ala | Thr 140 | Ser | Tyr | Ile | Ala | |
| tac | ctg | atg | gac | gtg | ctg | gcc | aag | gat | gca | cag | tct | ggc | gat | ccc | gag | 480 |
| Tyr 145 | Leu | Met | Asp | Val | Leu 150 | | Lys | Asp | Ala | Gln 155 | Ser | Gly | Asp | Pro | Glu 160 | |
| gcc | ttc | aag | gct | gaa | ctc | aag | aag | gcg | gat | ggc | ggc | cgt | gag | agc | aag | 528 |
| Ala | Phe | Lys | Ala | Glu 165 | | Lys | Lys | Ala | Asp 170 | | Gly | Arg | Glu | Ser 175 | Lys | |
| cgg | aaa | agg | gag | ctg | cag | cag | cac | gaa | ggt | ttt | cct | cct | gcc | ctg | ggc | 576 |
| Arg | Lys | Arg | Glu 180 | Leu | Gln | Gln | His | Glu 185 | | Phe | Pro | Pro | Ala 190 | . Leu | Gly | |
| cca | gtc | gag | aag | agg | att | aaa | gga | cgc | acc | ggc | tgg | ccg | cag | caa | gtc | 624 |
| Pro | Val | Glu 195 | Lys | Arg | Ile | Lys | Gly 200 | | Thr | Gly | Trp | Pro 205 | | Gln | Val | |
| tgg | gcg | ctg | gag | tta | aac | cag | | | | | | | | | | 645 |

| • | |
|---|--------------|
| Trp Ala Leu Glu Leu Asn Gln | |
| 210 215 | |
| <210> 25 <211> 411 | |
| <212> PRT | |
| <213> Homo sapiens | |
| <400> 25 | Ala |
| Met Glu Arg Met Ser Asp Ser Ala Asp Lys Pro Ile Asp Asn As | sp Ala 15 |
| 1 2 | |
| Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Al | |
| Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser As | sp Glu |
| 35 40 45 | |
| Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Ly | ys Leu |
| 50 55 | |
| Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His I | 1e GIN |
| 65 70 75 | |
| Val Leu Ala Arg Arg Lys Ser Arg Asp Phe His Ser Lys Leu L | 95 95 |
| 65 90 Gln Thr Ala Lys Asp Lys Ala Leu Gln His Met Ala Ala Met S | |
| 100 105 | |
| Ala Gln Ile Val Ser Ala Thr Ala Ile His Asn Lys Leu Gly I | eu Pro |
| 115 120 125 | |
| Gly He Pro Arg Pro Thr Phe Pro Gly Ala Pro Gly Phe Trp F | ro Gly |
| 130 135 140 | Pro Phe |
| Met Ile Gln Thr Gly Gln Pro Gly Ser Ser Gln Asp Val Lys I | 160 |
| 145 150 155 Val Gln Gln Ala Tyr Pro Ile Gln Pro Ala Val Thr Ala Pro | |
| Val Gln Gln Ala Tyr Pro Tie din Tio Ala val 122 122 125 170 | 175 |
| Gly Phe Glu Pro Ala Ser Ala Pro Ala Pro Ser Val Pro Ala | Trp Gln |
| 180 185 190 | |
| Gly Arg Ser Ile Gly Thr Thr Lys Leu Arg Leu Val Glu Phe | Ser Ala |
| 195 200 405 | |
| Phe Leu Glu Gln Gln Arg Asp Pro Asp Ser Tyr Asn Lys His | Leu Phe |
| 210 215 220 | |
| Val His Ile Gly His Ala Asn His Ser Tyr Ser Asp Pro Leu | Don ore |

| | | | | | | | | | | | | | | | 0.40 | |
|----------|-----------------|----------------|--------|-------|-------|-------|-------|------|-------|-------|----------------|-------|-------|-------|-------|-------|
| 225 | | | | | 230 | | | | | 235 | | | ٠ | | 240 | |
| Ser | Val | Asp | He | Arg | Gln | Ile | Tyr | Asp | Lys | Phe | Pro | Glu | Lys | Lys | Gly | |
| | | | | 245 | | | | | 250 | | | | | 400 | | |
| Glv | Leu | Lys | Glu | Leu | Phe | Gly | Lys | Gly | Pro | Gln | Asn | Ala | Phe | Phe | Leu | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Val | Lvs | Phe | Trp | Ala | Asp | Leu | Asn | Cys | Asn | He | Gln | Asp | Asp | Ala | Gly | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Ala | Phe | Tyr | Gly | Val | Thr | Ser | Gln | Туг | Glu | Ser | Ser | G1u | Asn | Met | Thr | |
| | 200 | | | | | 295 | | | | | 300 | | | | | |
| Val | Thr | Cvs | Ser | Thr | Lys | Val | Cys | Ser | Phe | Gly | Lys | Gln | Val | Val | Glu | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Tve | Val | Glu | Thr | Glu | Tyr | Ala | Arg | Phe | Glu | Asn | Gly | Arg | Phe | Val | Tyr | |
| | | | | 325 | | | | | 330 | l | | | | 330 | , | |
| Δησ | Πe | Asn | Arg | Ser | Pro | Met | Cys | Glu | Туг | Met | . I1e | Ast | Ph∈ | e Ile | His | |
| ni 5 | 110 | 11011 | 340 | | | | | 345 | j | | | | 350 |) | | ٠ |
| Lve | Ĭ.e.11 | Lvs | His | Leu | Pro | Glu | Lys | Tyr | Met | : Met | . Ası | ı Sei | · Va. | l Lei | ı Glu | |
| | | 355 | | | | | 360 | 1 | | | | 363 |) | | | |
| Δen | Phe | Thr | · 11e | . Leu | Leu | Val | Val | Thr | . Ası | n Arg | g As | p Th | r Gli | n Gla | u Thr | |
| | 370 | ì | | | | 375 | 5 | | | | 38 | U | | | | |
| Lei | Let | ı Cvs | : Me.t | . Ala | . Cys | Va] | Phe | Gli | ı Va | l Se | r As | n Se | r Gl | u Hi | s Gly | |
| 385 | | , | | | 390 | | | | | 39 | 5 [.] | | | | 400 | |
| Δ] z | Gli | n His | s His | s Ile | e Tyr | Arg | g Lei | ı Va | l Ly | s As | p | | | | | |
| 1110 | | | | 408 | | | | | 41 | 0 | | | | | | |
| <2 | 10> 3 | 26 | | | | | | | | | | | | | | |
| | | 1233 | | | | | | | | | | | | | | |
| | 12> | | | | | | | | | | | | | | | |
| | | | sap | iens | | | | | | | | | | | | |
| | 20> | | | | | | | | | | | | | | | |
| | 21> | CDS | | | | | | | | | | | | | | |
| | | (1). | . (12 | 36) | | | | | | | | | | | | |
| < A | nn> | 26 | | | | | | | | | | | | | | |
| at | 0 00 | a ag | e at | g ag | t ga | c to | t go | a ga | at aa | ag c | ca a | tt ga | ac a | at g | at gc | a. 48 |
| M e | 5 5- + G1 | lu Ar | e Me | et Se | r As | p Se | er Al | a As | sp L | ys Pi | ro I | le A | sp A | sn A | sp Al | a |
| | 1 | | | | 5 | | | | | 10 | | | | | 19 | |
| or s | ം സ | e et | te te | g ag | re ee | ec ga | ac at | c g | ag c | aa a | gc t | tt c | ag g | ag g | cc ct | g 96 |
| ت. وج | 10 58 11 G | so o' lv V: | al Ti | ro Sa | er Pr | ro A: | sp II | le G | lu G | ln S | er P | he G | ln G | lu A | la Le | u |
| ur, | LU U. | A.J. 1 C | ~ | | | | - | | | | | | | | | |

| | | | 20 | | | | | 25 | | | | | 30 | | | | |
|------------|-------------|-------|-----------------|----------|--------------|-------|---------------|--------------|--------|--------------|-------|-------|----------------------|------|---------------|----------|-------------------------|
| get | atc | tat | cca | cca | tgt | ggg | agg | agg | aaa | atc | atc | tta | tca | gac | ga | a | 144 |
| Ala | Ile | Tyr | Pro | Pro | Cys | Gly | Arg | Arg | Lys | Ile | Ile | Leu | Ser | Asp | G) | lu | , |
| | | 35 | | | | | 40 | | | | | 45 | | | | | 100 |
| ggc | aaa | atg | tat | ggt | agg | aat | gaa | ttg | ata | gcc | aga | tac | atc | aaa | . C1 | tc | 192 |
| Gly | Lys | Met | Tyr | Gly | Arg | Asn | Glu | Leu | He | Ala | Arg | Tyr | He | Lys | <u>ь</u> 6 | eu | |
| | 50 | | | | | 55 | | - | | | 60 | | | | | | 240 |
| agg | aca | ggc | aag | acg | agg | acc | aga | aaa | cag | gtg | tct | agt | cac | tic | , Ci | ag In | <i>∆</i> 4 0 |
| Arg | Thr | Gly | Lys | Thr | | Thr | Arg | Lys | Gin | Val | ser | zet. | nis | 116 | , u | 80 | |
| 65 | | | | | 70 | | | | 111 | 75 | * | 000 | ota | 220 | | • | 288 |
| gtt | ctt | gcc | aga | agg | aaa | tct | cgt | gat | יין די | ca. | Can | lve | Len | Lve | , A | SD | 200 |
| Val | Leu | Ala | Arg | | Lys | Ser | Arg | ASP | 90 | піз | 001 | цуа | Dea | 95 | , 5 | -CF | |
| | _ | | | 85 | | gcc | ota | വരന | | ate | - ቀርጀ | gcc | atg | | | ca | 336 |
| cag | act | gca | aag | gat | aag | Ala | Len | Gln | His | Met | . Ala | Ala | Met | Se | r S | er | |
| Gin | Inr | ΑŢa | . Lys 100 | | րչշ | VIO | рси | 105 | , 1110 | ., | | | 110 |) | | | |
| ~~~ | e a d | ato | otr | tee | gee | act | gcc | | | aac | aag | ctg | ggg | ct | go | ect | 384 |
| gue Ala | Gln | ille | Val | Ser | Ala | Thr | Ala | Ile | His | Asn | Lys | Leu | Gly | Le | u F | ro | |
| | | 115 | , | | | | 120 | | | | | 125 |) | | | | |
| ggg | att | cca | a cgo | ccg | acc | ttc | cca | ggg | gcg | cce | ggs | tto | tgg | g cc | g | gga | 432 |
| Gly | Ιlε | Pro | Arg | , Pro | Thr | Phe | Pro | Gly | Ala | Pro | Gly | y Phe | Tr | o Pr | 0 (| lly | |
| , | 130 |) | | | | 135 | | | | | 140 |) | | | | | 400 |
| atg | att | caa | a. a.ca | a ggg | cag | cca | . gga | tco | tca | a caa | a ga | c gto | aa | g cc | t i | ttt | 480 |
| Met | : 116 | e Gli | n Thi | Gly | 7 Glr | Pro | Gly | Sei | : Sei | c Gli | n Asj | p Vau | Ly | s PI | ' O' . | rne | |
| 145 | 5 | | | | 150 |) | | | | 15 | 5 | | | | | 100 | 528 |
| gte | g ca | g ca | g gc | c tac | c cc | ato | cag | cca | a gc | g gt | c ac | a gc | c cc | ca. | i. | Dro | 040 |
| Va] | l Gl | n G1: | n Ala | | | o Ile | e Glr | ı Pro | o Ali | a Va o | 1 1n | r Al | a FI | 17 | 75 | 110 | |
| | | | | 16 | 5 | | | | 17 | | a ert | 0.00 | t თი | | | caa | 576 |
| ggs | g tt | t ga | g cc | t gc | a tc | g gc | C C C C | agc | t cc | - 20 - 20 | a gu | 1 Pr | ι <u>5</u> 0 Α Δ1 | a Ti | oo rn | Gln | |
| Gl; | y Ph | e Gl | | | a Se | r Ala | l Pr | 3 A. 18 | | O De | I. AG | | 19 | 10 | ·F | | |
| | | | 18 | 0 | | a ac | | | | e et | o ot | e ga | | | ca | gct | 624 |
| gg | t cg | c to | c at | t gg | cac Th | a act | o aa; n Iv | g Cu e Le | n Ar | e T.e | ıı Va | 1 G1 | u Pł | ne S | er | Ala | |
| GI | y Ar | | | e ul | y III | T. TH | 20 | | u 111 | ٠ | | 20 | 15 | | | | |
| 1.4 | 4 .4 | 19 | .a. aa | מי יים | σ Λ α | a ga | | | ic to | g ta | ac aa | | | ac c | tc | ttc | 672 |
| ים ים | C CT | o ga | וא הא ויי הו | n Cl | n Δτ | g As | o pr | o As | sp Se | er Ty | r As | sn Ly | s H | is L | eu | Phe | |
| Ph | ie re | tu u | iu ui | ע אַ גע. | TI III | 9 113 | | - 1,1 | ' | | | · | | | | | |

| | 210 | | | | | 215 | | | | | 220 | | | | | |
|-------|-------|-------|-----------------|-------|----------------|----------------|-------|--------------|------------|--------------|-------|-----------|-------|----------------------|---------|-------|
| gtg | | att | ggg | cat | | | cat | tct | tac | agt | gac | cca | ttg | ctt | gaa | 720 |
| Val | His | Ile | Gly | His | Ala | Asn | His | Ser | Tyr | Ser | Asp | Pro | Leu | Leu | Glu | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| tca | gtg | gac | att | cgt | cag | att | tat | gac | aaa | ttt | cct | gaa | aag | aaa | ggt | 768 |
| Ser | Val | Asp | Ile | Arg | Gln | Ile | Tyr | Asp | Lys | Phe | Pro | Glu | Lys | Lys | Gly | |
| | | | | 245 | | | | | 250 | | | | | 255 | | 010 |
| ggc | tta | aag | gaa | ctg | ttt | gga | aag | ggc | cct | caa | aat | gcc | ttc | ttc | CTC | 816 |
| Gly | Leu | Lys | | Leu | Phe | Gly | Lys | | Pro | GIn | Asn | Ala | Pne | rne | геп | |
| | | | 260 | | | | | 265 | | | | go.t | 270 | rat | · orara | 864 |
| gta | aaa | ttc | tgg | gct | gat | tta | aac | tgc | aat | att | Caa | gat | gau | Ala | Glv | . 004 |
| Val | Lys | | Trp | Ala | Asp | Leu | Asn | СуS | ASII | 116 | UIII | 285 | nop | niu | 013 | |
| | | 275 | | at o | 000 | · a ort | 280 | tan | 020 | agt. | tet | | aat | atg | aca | 912 |
| gct | UUU | Tur | ggu | g ta | Thr | San | Gin | Tur | Glu | Ser | Ser | Glu | Asn | Met | Thr | |
| Ala | 290 | Ty1 | uly | ACT | 1111 | 295 | 0.111 | . 1,11 | Ulu | 501 | 300 | | | | | • |
| ort c | | †ø†. | tee | acc | aaa | | tgc | tcc | ttt | ggg | aag | caa | gta | gta | gaa | 960 |
| Val | Thr | Cvs | Ser | Thr | Lys | Val | Cys | Ser | Phe | Gly | Lys | Gln | Val | Val | Glu | |
| 305 | | -5 - | | | 310 | | | | | 315 | | | | | 320 | |
| aaa | gta | gag | acg | gag | tat | gca | agg | ttt | gag | aat | ggc | cga | ttt | gta | tac | 1008 |
| Lys | Val | Glu | Thr | Glu | Tyr | Ala | Arg | Phe | Glu | Asn | Gly | Arg | Phe | · Val | Tyr | |
| | | | | 325 | | | | | 330 | | | | | 335 |) | 1050 |
| cga | ata | aac | cgc | tcc | cca | . atg | tgt | gaa | tat | atg | ato | aac | tto | ato | cac | 1056 |
| Arg | : Ile | Asn | Arg | Ser | Pro | Met | Cys | | | Met | : Ile | e Asn | Phe | 110 | e His | |
| | | | 340 | | | | | 345 | | | | | 35(| | ~ ~~~ | 1104 |
| aag | cto | aaa | cac | tta | cca | gag | aaa | . tat | atg | ate | aac | agt | , gt | , lla | g gaa | 1104 |
| Lys | Leu | | | s Leu | Pro | Git | | | · Met | , Met | , ASI | 365 | | Гре | u Glu | |
| | | 355 | | | | | 360 | | | n order | r mai | | | a Ø2. | a act. | 1152 |
| aac | tto | aca | att | tta | i tte | g gtg | ggua | aca The | i dal | ; age And | g ga: | n Thi | · Gli | ո Gl | a act | 1102 |
| Ası | | | . 116 | e rei | ı Lei | 1 val | | 1111 | . Voi | ι πιε | 380 | ת נתני | | | u Thr | |
| | 370 | | +. | ~ ~^ | . + ~ | | | - ග න | a orti | t te | | | t ga | a ca | c gga | 1200 |
| CT | a cto | c tgo | c alle c Mos | g goo | ያ ሲዩነ ኔ ሆን፣ | c Bus c Vai | i Phe | s Gli | ı Va | l Sei | r As: | n Sei | r Gl | u Hi | s Gly | |
| | | u Uy: | o Me | f WIG | 1 Cy. 391 | | 140 | | . , , , , | 39 | | | | | 400 | |
| 38 | | മറു | t ca | t att | | | g cti | t gta | a aas | | | | | | | 1233 |
| | | | | | | | g Lei | | | | | | | | | |
| ΛI | u ur | | C 411 | _ ,, | | | | | • | | _ | | | | • | |

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410

<210> 27 <211> 427 <212> PRT <213> Homo sapiens <400> 27 lle Thr Ser Asn Glu Trp Ser Ser Pro Thr Ser Pro Glu Gly Ser Thr 1 Ala Ser Gly Gly Ser Gln Ala Leu Asp Lys Pro Ile Asp Asn Asp Ala 25 20 Glu Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala Leu 45 40 Ala Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp Glu 55 Gly Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys Leu 70 Arg Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile Gln 90 85 Val Leu Ala Arg Arg Lys Ala Arg Glu Ile Gln Ala Lys Leu Lys Asp 110 105 100 Gln Ala Ala Lys Asp Lys Ala Leu Gln Ser Met Ala Ala Met Ser Ser 125 120 115 Ala Gln Ile Ile Ser Ala Thr Ala Phe His Ser Ser Met Ala Leu Ala 140 135 Arg Gly Pro Gly Arg Pro Ala Val Ser Gly Phe Trp Gln Gly Ala Leu 155 150 145 Pro Gly Gln Ala Gly Thr Ser His Asp Val Lys Pro Phe Ser Gln Gln 175 170 165 Thr Tyr Ala Val Gln Pro Pro Leu Pro Leu Pro Gly Phe Glu Ser Pro 190 185 180 Ala Gly Pro Ala Pro Ser Pro Ser Ala Pro Pro Ala Pro Pro Trp Gln 205 200Gly Arg Ser Val Ala Ser Ser Lys Leu Trp Met Leu Glu Phe Ser Ala 220 215 210 Phe Leu Glu Gln Gln Gln Asp Pro Asp Thr Tyr Asn Lys His Leu Phe 240 235230 225

96

| Val | His | Ile | Gly | Gln 245 | Ser | Ser | Pro | Ser | Tyr 250 | Ser | Asp | Pro | Tyr | Leu 255 | Glu | |
|-----|--------------|-------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|------|--------------|--------------|--------------|------------|-----------------------|------|
| Ala | Val | Asp | Ile 260 | Arg | Gln | Ile | Tyr | Asp 265 | Lys | Phe | Pro | Ģlu | Lys 270 | Lys | Gly | |
| | Leu | 975 | Asp | | | | 280 | Gly | Pro | , | | 400 | | | | |
| | 200 | Phe | | | | 295 | | | | | 300 | ı | | | Ser | |
| 205 | Phe | | | | 310 | | | | | 315 | | | | | 320 | ٠ |
| Ile | | | | 325 | | | | | 330 |) | | | | JJU | | |
| | | | 340 | ۲. | | | | 345 |) | | | | 330 | , | Tyr | |
| | | 355 | ί. | | | | 360 |) | | | | 200 | , | | e His | |
| | 370 | 1 | | | | 379 | 5 | | | | 38 | U | | | u Glu | |
| 200 | : | | | | 390 |) | | | | 39 | 5 | | | | u Thr 400 s Gly | |
| | | | | 40 | 5 | | | | 41 | U | | പ വേ | , 41 | 41 | s Gly 5 | |
| | a Glı | | s Hi 42 | | e Ty | r Ar | g Le | u va 42 | л цу 5 | S VI | ·u | | | | | |
| <2 | 10> 2 11> | 1281 | | | | | | | | | | | | | | |
| | 12> 13> | | sar | iens | | | | | | | | | | | | |
| | 220> 221> | CDS | | | | | | | | | | | | | | |
| _ | 223> 400> | 28 | | | | | | | | | | | | | | . 48 |
| | L+ 00 | ۰ . t | cc aa er A | ac ga sn G | ag te lu T | gg a rp S | gc t er S | ct c er P | cc a ro T | hr S | cc c er P | ct g ro G | ag g lu G | gg a | gc acc er Thi | 7 |
| | 1 | | | | 5 | | | | | 10 | | | | | 15 gac gca | |

| | _ | | a 3 | ~ | α1 | ۸٦_ | 1 017 | Aan | T 176 | Dro | Πe | Asn | Asn | Asp | Ala | |
|------|------------------|------------|--------------|-------|------------------|-------|-------|-------|-------|-------|-------|------------|-------|--------------|-------|--------------|
| Ala | Ser | Gly | G1y 20 | Ser | ПÜ | WIA | ьeu | 25 | כענת | 110 | 110 | ILDF | 30 | | | |
| | ara o | art ar | 400 | agc | _ር ር ወ | gat. | att | | cag | agt | ttc | cag | gag | gcc | ctc | 144 |
| gag | MI 44 | Val | USS Trn | Ser | Pro | Asp | Ile | Glu | Gln | Ser | Phe | Gln | Glu | Ala | Leu | |
| GIU | GIÀ | 35 | 111 | 501 | 110 | , mor | 40 | | | | | 45 | | | | |
| ~~~ | atc | tan | ር ሶ ድ | ccc | tøt. | ggc | | cgc | aaa | atc | atc | ctg | tcg | gac | gag | 192 |
| Ala | Tla | Tur | Pro | Pro | Cvs | Gly | Arg | Arg | Lys | He | Ile | Leu | Ser | Asp | Glu | |
| на | 50 | 171 | 110 | 110 | 0,0 | 55 | | | · | | 60 | | | | | |
| aac | 220 | ato | tat. | ggt | cgg | | gag | ctg | att | gcc | cgc | tac | atc | aag | ctc | 240 |
| Glv | Lvg | Met | Tvr | Gly | Arg | Asn | Glu | Leu | Ile | Ala | Arg | Tyr | He | Lys | Leu | |
| 65 | ы, ₍₃ | 1100 | -,- | 7-0 | 70 | | | | | 75 | | | | • | 80 | |
| CAA | aca | 888 | ลลย | acc | cgc | acc | agg | aag | cag | gtc | tcc | agc | cac | atc | cag | 288 |
| Arg | Thr | Glv | Lys | Thr | Arg | Thr | Arg | Lys | Gln | Val | Ser | Ser | His | Ile | Gln | |
| | | | | 85 | | | | | 90 | | | | | 90 | | |
| et.e | ctg | gct | cgt | cgc | aaa | gct | cgc | gag | atc | cag | gcc | aag | cta | aag | gac | 336 |
| Val | Leu | Ala | Arg | , Arg | Lys | Ala | Arg | Glu | Ile | Gln | Ala | . Lys | Leu | Lys | Asp | |
| | | | 100 |) | | • | | 105 | | | | | ΥĭΟ | | | 5 0.4 |
| cag | gca | get | aag | g gac | aag | gco | ctg | cag | ago | atg | gct | gcc | atg | tcg | tct | 384 |
| Gln | Ala | Ala | Lys | s Asp | Lys | Ala | ı Lev | Gln | Ser | · Met | : Ala | 1 Ala | , met | Ser | Ser | |
| | | 115 | , 1 | | | | 120 |) ' | | | | 125 |) | | | 400 |
| gca | , cag | ato | ate | c tee | gcc | ace | g gc | tto | cac | agt | ago | ate | gco | cto | gcc | 432 |
| Ala | Gli | ı Ile | e Il | e Ser | · Ala | t Thi | . Ala | ı Phe | His | s Sei | Sei | r Met | . Ala | t Lei | ı Ala | |
| | 130 |) . | | | | 13 | | | | | 14(| | | | | . 400 |
| cgg | gg | e eco | gg | c cg | c cca | a gc | a gto | c tca | ı gga | g tti | t tga | g caa | a gga | a gc | t ttg | 480 |
| Arg | g Gly | y Pro | o Gl | y Arg | g Pro | o Al | a Va | l Sei | c Gl; | y Pho | e Tri | p G11 | n GI | Al | a Leu | |
| 145 | 5 | | | | 150 | | | | | 15 | | , , , | | L | 160 | |
| cca | a gg | c ca | a gc | c gg | a ac | g tc | c ca | t ga | t gt | g aa | g cc | t tt | c tc | l ca - ci | g caa | |
| Pro | o Gl | y G1: | n Al | a Gl | y Th | r Se | r Hi | s As | p Va | l Ly | s Pr | o Pu | e 26 | [UI 17 | n Gln | ı |
| | | | | 16 | 5 | | | | 17 | | | 44 | + | 17 | | 576 |
| ac | c ta | t gc | t gt | c ca | g cc | t cc | g ct | g cc | t ct | g cc | a gg | g tt | t ga | g to | t cct | 2 010 |
| Th | r Ty | r Al | a Va | ıl Gl | n Pr | o Pr | o Le | u Pr | o Le | u Pr | 0 GI | y Pn | ւն մե | U II DE | r Pro | , |
| | | | 18 | 30 | | | | 18 | | | | | 19 | | | g 624 |
| gc | a gg | g cc | c go | cc cc | a to | g co | c to | tgc | g co | c cc | ggc | a co | C CC | at be | g cag | - |
| Al | a Gl | y Pr | o A | la Pr | o Se | r Pi | | | a Pr | o Pr | 'O Al | a ri or | .O LI | U II | p Gli | .1 |
| | | 19 | 5 | | | | 20 | | ı | 1 | اساسي | 20 | | · c + . | ተ ወሰ | c 672 |
| gg | c cg | c ag | c g | tg go | ec ag | sc to | c az | ig ct | c te | gg at | g ti | rg ga | ig U | יט טי | ct gc | 012 |

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| | Arg 210 | Ser | Val | Ala | | Ser : 215 | Lys | Leu | Trp | Met | Leu 220 | Glu | Phe | Ser | Ala | |
|-------------------|-------------------|------------|------------|----------------|-------------------|-------------------|------------|----------------|--------------|-------------------|-------------------|------------|----------------|--------------|-----------------------|------|
| Phe | ctg Leu | gag Glu | cag Gln | cag Gln | Gln | gac Asp | ccg Pro | gac Asp | acg Thr | tac Tyr 235 | aac Asn | aag Lys | cac His | ctg Leu | ttc Phe 240 | 720 |
| 225 gtg Val | cac His | att Ile | ggc Gly | cag Gln | 230 tcc Ser | agc Ser | cca Pro | agc Ser | tac Tyr | agc | gac Asp | ccc Pro | tac Tyr | ctc Leu | gaa | 768 |
| gcc | gtg | gac | atc | 245 cgc | caa | atc | tat | gac | 250 aaa | ttc | ccg | gag | aaa | 255 aag | ggt | 816 |
| | | | 260 | Arg | | | | 265 | | | | | 270 | | Gly ctt | 864 |
| Gly | Leu | Lys 275 | Asp | Leu | Phe | Glu | Arg 280 | Gly | Pro | Ser | Asn | Ala 285 | Phe | Phe | Leu | |
| gtg Val | Lys | ttc Phe | tgg Trp | gca Ala | gac Asp | ctc Leu 295 | aac Asn | acc Thr | aac Asn | atc Ile | gag Glu 300 | Asp | gaa Glu | ggc | agc | 912 |
| tcc Ser | 290 ttc Phe | tat Tyr | ggg Gly | gtc Val | Ser | agc | cag Gln | tat Tyr | gag Glu | Ser | ccc Pro | gag | aac Asn | atg Met | atc | 960 |
| 305 atc Ile | acc Thr | tgc Cys | tcc Ser | acg Thr | 310 aag Lys | gtc Val | tgc Cys | tct Ser | ttc Phe | 315 ggc Gly | aag | cag Gln | gtg Val | gtg Val | 320 gag Glu | 1008 |
| aaa | gtt | gag | aca | 325 gag | tat | gct | cgo | tat | 330 gag | aat | gga | a cac | tac | 335 tct | t tac | 1056 |
| cgc | atc | cac | 340 cgg | tcc | ccg | ctc | tgt: | 345 gag | tac | atg | g ato | c aac | 350 tto | ato | c cac | 1104 |
| | | 355 |) | | | | 360 |) | | | | 365 | 5 | | e His | 1152 |
| aag Lys | ctc Leu 370 | Lys | cac His | cto Lev | cct Pro | gag Glu 378 | ı Lys | g tac s Tyl | e atg Me1 | ; aug : Met | t Ası 38 | n Sei | r Val | Le | g gag u Glu | 1102 |
| Asr | tto Phe | aco | ator Ile | c cta e Leu | ı Glr | g gta n Val | g gto | acc l Thi | aac Ası | n Ar | g As | c acc | a cag r Gli | g ga n Gl | g acc u Thr 400 | 1200 |
| 383 tts | | g tg | c at | t gc | 390 tat | | e tt | t ga | g gti | 39 g to | | c ag | t ga | g ca | c ggg | 1248 |

| Leu Leu Cys Ile Ala Tyr Val Phe Glu Val Ser Ala Ser Glu His Gly 405 410 415 | |
|---|------|
| 400 | 1281 |
| Ala Gln His His Ile Tyr Arg Leu Val Lys Glu | |
| 420 425 | |
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| <213> Homo sapiens | |
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| Ile Ala Ser Asn Ser Trp Asn Ala Ser Ser Pro Gly Glu Ala Arg | |
| 1 5 10 15 | |
| Glu Asp Gly Pro Glu Gly Leu Asp Lys Gly Leu Asp Asn Asp Ala Glu | |
| 20 25 30 Lev Ala | |
| Gly Val Trp Ser Pro Asp Ile Glu Gln Ser Phe Gln Glu Ala Leu Ala | |
| .50 | |
| Ile Tyr Pro Pro Cys Gly Arg Arg Lys Ile Ile Leu Ser Asp Glu Gly | |
| 30 | |
| Lys Met Tyr Gly Arg Asn Glu Leu Ile Ala Arg Tyr Ile Lys Leu Arg 75 80 | |
| Thr Gly Lys Thr Arg Thr Arg Lys Gln Val Ser Ser His Ile Gln Val | |
| Thr Gly Lys Int Arg Int Arg 255 on var 95 | |
| Leu Ala Arg Lys Lys Val Arg Glu Tyr Gln Val Gly Ile Lys Ala Met | |
| 100 105 110 | |
| Asn Leu Asp Gln Val Ser Lys Asp Lys Ala Leu Gln Ser Met Ala Ser | |
| 115 120 125 | |
| Met Ser Ser Ala Gln Ile Val Ser Ala Ser Val Leu Gln Asn Lys Phe | |
| 120 135 140 | |
| Ser Pro Pro Ser Pro Leu Pro Gln Ala Val Phe Ser Thr Ser Ser Arg | |
| 145 150 155 100 | |
| Phe Trp Ser Ser Pro Pro Leu Leu Gly Gln Gln Pro Gly Pro Ser Gln | |
| 165 170 175 | |
| Asp Ile Lys Pro Phe Ala Gln Pro Ala Tyr Pro Ile Gln Pro Pro Leu | |
| 180 185 190 | |
| Pro Pro Thr Leu Ser Ser Tyr Glu Pro Leu Ala Pro Leu Pro Ser Ala | |
| 195 200 205 | |

| Ala Ala Ser Val Pro Val Trp Gln Asp Ar | rg Thr lle Ala Ser Ser Arg |
|--|-----------------------------------|
| 210 215 | 220 |
| Leu Arg Leu Leu Glu Tyr Ser Ala Phe Me | 240 |
| 225 230 | 200 |
| Asp Thr Tyr Ser Lys His Leu Phe Val Hi | is the dry with this Ash the |
| | |
| Ala Phe Ser Asp Pro Pro Leu Glu Ala Va | ar Asp var Arg off fro 191 270 |
| 260 265 | - ' ' |
| Asp Lys Phe Pro Glu Lys Lys Gly Gly L | eu Lys wid Led 131 did 230 285 |
| 275 280 | |
| Gly Pro Pro Asn Ala Phe Phe Leu Val L | ys rne irp nia asp noa ass 300 |
| 290 295 | |
| Ser Thr Ile Gln Glu Gly Pro Gly Ala P | 315 320 |
| 305 310 | 010 |
| Tyr Ser Ser Ala Asp Ser Met Thr Ile S | 330 335 |
| | 000 |
| Ser Phe Gly Lys Gln Val Val Glu Lys V | 350 |
| 340 345 Leu Glu Asn Gly Arg Phe Val Tyr Arg | |
| n c A | 365 |
| 355 360 Glu Tyr Met Ile Asn Phe Ile His Lys I | |
| 0.75 | 380 |
| 370 375 Tyr Met Met Asn Ser Val Leu Glu Asn | |
| 0.00 | 395 400 |
| 385 Thr Ser Arg Asp Ser Gln Glu Thr Leu | |
| Thr Ser Arg Asp Ser uni utu im 200 405 | 410 415 |
| Glu Val Ser Thr Ser Glu His Gly Ala | |
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| ata | gcg | tcc | aac | agc | tgg | aac | gcc | agc | agc | agc | CCC | C 1 47 | gag | . 50 13 | .c c | 65 Tø | 40 |
| Ile | Ala | Ser | Asn | | Trp | Asn | Ala | Ser | Ser | ser | Pro | GTA | äια | . Ai | .a r .5 | πъ | - |
| 1 | | | | 5 | | _ | | | 10 | - - | | 000 | ant. | - | | វេធ្យ | 96 |
| gag | gat | ggg | ccc | gag | ggc | ctg | gac | aag | ggg | ctg | gac | Aan | Aon | , 5. . Δ1 | ک دار ایدا | 3111 | 00 |
| Glu | Asp | Gly | | | Gly | Leu | Asp | Lys | glà | Leu | ASP | ASII | 30 | , 13.1 I | \ | | |
| | | | 20 | | | | | 25 | | ++^ | 000 | eta et | | | Fρr s | e.c.c | 144 |
| ggc | gtg | tgg | agc | ccg | gac | atc | gag | cag | agc | Dha | Cag | Glu | Δla | . T. | 25 6 211 | Ala | |
| Gly | Val | | | Pro | Asp | He | Glu | Gin | 2er | rne | 0111 | 45 | Vic | | cu . | | |
| | | 35 | | | | | 40 | | -4- | a+a | ata | | ga (| · 97: | ag . | aac | 192 |
| atc | tac | ccg | ccc | tgc | ggc | cgg | cgg | aag | alc | a.cc | Log | ra? | Asr | o G | 111 | Glv | |
| Ile | | Pro | Pro | Cys | Gly | | Arg | Lys | 116 | 7.70 | 60 | 1 | 110 | , . | | | |
| | 50 | | | | | 55 | | ++ | | e ere | • • | | . สล | a.c | t.g | agg | 240 |
| aag | atg | tac | ggc | cga | aat | gag | ttg | au. Tla | , gca . Ala | Ara | י בטי | · Ile | Lv | s L | eu | Arg | |
| | | Tyr | · GI3 | / Arg | | | ı Let | 1 116 | : KIA | ль 75 | . 1,7 1 | ,,, | . روس | | | 80 | |
| 65 | | | , | | 70 | | | | r orto | | | cae | at | a c | ag | gtt | 288 |
| acg | ggg | aag | g act | t cgs | g ace | g alga | a aaa g Lys | i Cae | s 5º5 . Val | , ccc Set | Sei | r His | . Il | — . е G | lln | Val | |
| Thr | Gly | Ly; | s In | | | . MI | Z TA: | 9 U I I | 90 |) | | | | | 95 | | |
| , | | _ | | 8 |) - | T 00 | g ga | r tai | | | gg | c at | aa | g g | gee | atg | 336 |
| cta | . gct | cg; | gaa; | g aa; | g gua | 3 OS: I An | g Gl | 5 0av | c Glr | ı Val | G1: | y Il | e Ly | s A | la | Met | |
| Leu | i Ala | l Ar | | | s va | ı nı | 5 ar | 10 | 5 | | | | 11 | .0 | | | |
| | 1 | | 10 | U ~~ ~+ | a ta | r 22 | g ga | | | c ct | t ca | g ag | c at | g | gcg | tcc | 384 |
| aac | CTE | gga - Ac | c ca ~ ci | g gr | ს სს ი ე ე | r Iv | s As | n Lv | s Ala | a Lei | ı Gl | n Se | r Me | et 1 | Ala | Ser | |
| ASI | ı rei | | | II va | 1 50 | ı D | 12 | 0 | | | | 12 | 5 | | | | |
| . 4. | _ 4 | 11 . + a | .+ ~^ | | o at | r øt | | | c ag | t gt | c ct | g ca | g aa | ac : | aag | ttc | 432 |
| ata | ב לניי ב לניי | , C | n Al | 60 o. 10 e. | n II | e Va | ol Se | r Al | a Se | r Va | l Le | u Gl | n As | sn | Lys | Phe | |
| me | | | :Y. W1 | a ui | 11 11 | 13 | | | | | 14 | ŀ0 | | | | | |
| | 13 | v 2 24 | ·+ +c | אר פר | t ct | er co | ic ca | e go | c gt | c tt | c to | ec ac | t t | cc | tcg | cgg | 480 |
| ag | o oo | a co | 20 00 | or Pr | n Le | וים וים Pi | ro Gl | n Al | a Va | .1 Ph | e Se | er Th | ir S | er | Ser | Arg | |
| | | O I I | . 0 50 | 51 11 | 15 | | | | | 15 | 5 | | | | | 160 | |
| 14 | 0 ~ *~ | ~ n | TO 20 | TO 00 | | rt di | to et | g ge | a ca | ıg ca | g co | ct gg | ga c | cc | tct | cag | 528 |
| L L | c ເຮ | g a | stae on C | on Di | ro Pi | o L | en Le | en Gl | ly GI | n G | n P | ro G | ly P | ro | Ser | Glr | 1 |
| rn | e H | ν ο | בו. קו | | 35 | . • • | | | 17 | 70 | | | | | 175 | 5 | |
| | + | | വന വ | oc t | tt øi | ca. e | ag C | ca g | | | c a | tc c | ag c | cg | cco | e eta | s 576 |
| ga | ic al | ات کار ت م | as C | ro D | he A | la G | э. 1п Р | ro A | la T | yr Pi | ro I | le G | ln P | ro | Pro | o Lei | 1 |
| AS | 2b 11 | e r | ys r | IU I | iic A | ,, u, u | -11 L | | , | | | | | | | | |

| | | | 100 | | | | 1 | .85 | | | | | 190 |) | | | | |
|-----|-------|-------|--------|----------------|-------------|------------------|------------|-------|---------------|--------------|----------------|---------------|-----------|------|-------|------------|-----|------|
| | | | 180 | agc | 20+ 4 | tat s | 12 E | ice (| te s | gcc | ccg | ctc | cce | c to | ca | gc | t | 624 |
| ccg | ccg | acg | CLC | Ser | agu Cor' | rur (| llı I | ro I | eu . | Ala | Pro | Leu | Pro | o S | er | Ala | a | |
| Pro | Pro | | Leu | 261. | OCI . | ıyı (| 200 | | | | | 205 | | | | | | |
| | | 195 | | cct | ata · | | | 78C (| cet : | acc | att | gcc | tc | c t | cc | cg. | g | 672 |
| gct | gcc | tct | gtg | Pro | g ug | vgg v Ten l | Cln . | Asn. | Arg | Thr | Ile | Ala | Se | r S | er | Ār | g | |
| Ala | | Ser | val | Pro | Val | 215 | U111 1 | nop . | 0 | 4 400 | 220 | | | | | | | |
| | 210 | | - 4 | gag | +2+ | 40a | ore i | t.t.c | atg | gag | | cag | cg | a g | ac | СС | t | 720 |
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| | Arg | Leu | Leu | GLU | 230 | 961 | AIA . | 1 IIC | 1100 | 235 | , | | | | | 24 | 0 | |
| 225 | | | | aaa | 230 | ot œ | +++ | øtø | | | ggo | cag | s ac | g a | ac | cc | c | 768 |
| gac | acg | tac | agc | Lys | uic | Lou | Dhe | Val | His | Ile | Gly | Glr | ı Th | ir A | Asn | Pr | o | |
| Asp | Thr | Tyr | Ser | | utz | Ten | Inc | Yuı | 250 | | • | | | 2 | 255 | | | |
| | | | | 245 cca | 000 | ct or | മാള | aca | | gat | gts | cg(| e ca | ag a | atç | ta | at | 816 |
| gcc | ttc | tça | gac | cca Pro | UUU | Lou | Clu | Δla | Val | Asp | Va. | Ar | g G | ln i | Ile | T; | уr | |
| Ala | . Phe | Ser | | | Pro | ր ն ս | uju | 265 | , W.I | | , | | 2' | 70 | | | | |
| | | | 260 | gag | | 60 G | or or o | | tte | aag | gas | z ct | c t | at : | gag | a | ag | 864 |
| gao | aaa | , tt(| C C C | gag Glu | aaa | Luc | G5a Glv | Clv | Len | Lvs | Gl | u Le | u T | yr | Glu | L | ys | |
| Ası |) Lys | | |) Glu | Груѕ | гуз | 280 | u i j | ,,,,,, | . | | 28 | 5 | - | | | | |
| | | 27 |) | t gcc | ++0 | ++ ^ | | ort c | ลลฮ | t.t.c | t.g | g gc | c g | ac | cto | a | .ac | 912 |
| ggg | g ccc | CC. | t aa | t gcc n Ala | nh. | Dha | Lou | Val | Lvs | Phe | . Tr | o J n Al | a A | sp | Leu | ı A | sn | |
| G1; | | | o Asi | n Ala | t Phe | | ьeu | vai | D, S | 1 11 | 30 | 0 | | _ | | | | |
| | 290 |) . | | g gaş | | 295 | രണം | acc | tto | · tat | - | | c a | ıgc | tc1 | t c | ag | 960 |
| ag | c ac | c at | c ca | g gag n Glu | g ggo | . Cug | gga Clu | . Als | Phe | Tvi | r Gl | v Va | al S | Ser | Se | լ (| lln | |
| | | r ll | e Gl | n Giv | | | GIY | Aro | (1 110 | 31 | . u. | | | | | 3 | 320 | |
| 30 | 5 | | | t ga | 310 |) - ^+^ | | . ata | · 90' | | | ec a | cc a | aag | gt | g i | tgc | 1008 |
| ta | c ag | c to | tgc | t ga | t ago | : ale | The | i acc | . as. | r Va | 1 Se | יד ד <u>י</u> | - hr 1 | Lys | ۷a | 1 (| Cys | |
| Ту | r Se | r Se | r Al | a As | | , Mei | , 1111 | . 110 | 33 | ስ በ | 1 5 | · - | | - • | 33 | 5 | | |
| | | | | 32 | b | .4. | | | ად. ლილება | ഗ സ | 0 2 | nt p | ag | tat | | | agg | 1056 |
| to | c tt | t ge | gc a.a | ua ca | g gt: | ggta | a gag | g aa | g g (, | 5 50 1 61 | .Б. С. 11 Т | hr G | Iu | Tvr | Αl | a | Arg | |
| Se | er Ph | ie G | | rs Gl | n Va | I Va | I GII | ц цу: | s va. | .1 01 | .u 1. | III u | ıu | 350 | | | | |
| | | | 34 | 40 | | | | 34 | | | | ere t | | | | .0 | tgc | 1104 |
| C | tg ga | ng a | ac g | gg cg | c tt | t gt | g ta | c cg | tat | 30 D. | ic c | gu l na c | lan | Pro | Me | -o -t | Cys | |
| L | eu G | lu A | sn G | ly Ar | g Ph | e Va | 1 Ty | r Ar | g 11 | .е п. | LS A | 7.2 v | 365 | 110 | | | -,- | |
| | | 3 | 55 | | | | 36 | | . 1 | | | | | eer. | י סיי | 35 | aag | 1152 |
| g | ag t | ac a | tg a | tc aa | ac tt | c at | c ca | c aa | ıg ct | g aa | ag c | ac (| , ug | Dne | , E | 45 11 | Lve | |
| G | lu T | vr M | et I | le A | sn Ph | ne II | e Hi | s Ly | rs Le | eu L | ys h | us I | ren | rrc | יט ע | , u | פעע | |

| 370 375 380 | 1200 |
|---|---------|
| tac atg atg aac agc gtg ctg gag aac ttc acc atc ctg cag gtg gtc | |
| Tyr Met Met Asn Ser Val Leu Glu Asn Phe Thr Ile Leu Gln Val Val | |
| 385 390 | 1248 |
| acg age egg gae tee eag gag ace ttg ett gte att get ttt gte tte | 1210 |
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| 405 410 415 | 1906 |
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| Glu Val Ser Thr Ser Glu His Gly Ala Gln His His Val Tyr Lys Leu | |
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| gtc aaa gac | 1305 |
| Val Lys Asp | • |
| 435 | |
| | |
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| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro 100 105 110 | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro 100 105 110 Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro 100 105 110 Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr | |
| His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly 20 25 30 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg 35 40 45 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro 50 55 60 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu 65 70 75 80 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val 85 90 95 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro 100 105 110 Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr | |

| Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val |
|---|
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| 145 Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr 170 175 |
| Leu Val Ala Pro Ser Cys Ala 191 Gran 175 |
| Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly 190 |
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| Pro Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg |
| 200 |
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| 990 200 |
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| 280 |
| Lau Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Win his his |
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| Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Irp Asp III 110 |
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| 30V |
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| 540 |
| San Lou Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Sei |
| |
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| 7/6 |
| 370 Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His 395 400 |
| - 300 |
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| 410 |
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| |
| 420 |

| Gly Ser Val Ala Ala Pro Glu Glu Glu Asp Thr Asp Pro Arg Arg Leu 440 445 |
|--|
| Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe |
| 456 400 |
| Val Are Ala Cyc Leu Arg Arg Leu Val Pro Pro Gly Leu Irp Gly Ser |
| 470 410 |
| Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Fhe 11e Bor |
| Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met |
| |
| Ser Val Arg Asp Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys |
| 520 |
| Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe |
| 535 540 |
| Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser The |
| 550 |
| Phe Tyr Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Fhe The |
| 565 370 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° |
| Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His |
| £6V 209 |
| Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln 505 600 605 |
| His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile |
| 616 |
| But Lys Pro Asp Gly Leu Arg Pro Ile Val Asp Met Asp Tyr Val Val |
| ნვე ნაე |
| Cly Ala Arg The Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu The Ser |
| 645 000 |
| Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg |
| 660 600 |
| Pro Gly Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg |
| . cas 680 |
| Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro 700 |
| |
| Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile 720 |
| 705 710 713 |

| Pro Gln Asp Arg Leu Thr Glu Val IIe Ala Ser IIe IIe Lys Pro Gln 735 725 730 |
|---|
| Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His |
| Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp 760 765 |
| Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Inr Ser 780 |
| Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Leu Ash Glu 795 800 |
| 785 Ale Ser Ser Cly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His |
| 905 010 |
| Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro 820 820 820 820 |
| Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly ASP |
| Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu |
| 855 |
| Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala |
| 270 010 |
| Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys |
| 005 030 |
| Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu |
| 000 900 |
| Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe |
| 016 920 |
| Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu Val Gln Ser |
| 035 |
| Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe 960 |
| 050 |
| Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly 975 965 970 975 |
| Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn 985 990 |
| Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Gln |
| 995 1000 1005 |
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| Ala Tyr Arg Phe His Ala Cys Val Leu Gln Leu Pro Phe His Gln Gln | |
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| Val Trp Lys Asn Pro Thr Phe Phe Leu Arg Val Ile Ser Asp Thr Ala 1035 1040 | |
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| San Lou Cys Tyr Ser Ile Leu Lys Ala Lys Ash Ala biy Met Ber Bed | |
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| Gly Ala Lys Gly Ala Ala Gly Pro Leu Pro Ser Glu Ala Val Gln Trp | |
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| 1080 | |
| Tyr Val Pro Leu Gly Ser Leu Arg Thr Ala Gln Thr Gln Leu Ser | |
| 1005 | |
| A Lord Lou Pro Gly Thr Thr Leu Thr Ala Leu Glu Ala Ala Ash | |
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| 1105 The Lee Asp | |
| Pro Ala Leu Pro Ser Asp Phe Lys Thr Ile Leu Asp | |
| 1125 | |
| <210> 32 | |
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| <212> DNA | |
| <213> Homo sapiens | |
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| <400> 32 | 48 |
| atg ccg cgc gct ccc cgc tgc cga gcc gtg cgc tcc ctg ctg cgc agc | |
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| , 10 | 0.0 |
| ata eta coa eta acc acg tto gtg cgg cgc cos ses | 96 |
| tac tac cgc gag gcg ctg ccg cog goo ato His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly | |
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| 20 20 gcg gct ttc cgc | 144 |
| ccc cag ggc tgg cgg ctg gtg cag cgc ggg gac ccg gcg gct ttc cgc | |
| Pro Gln Glv Trp Arg Leu Val Gin Arg Giy Asp 110 Mid 110 Mid | |
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| the reserved tag tag etg etg etg etg ecc tgg gac gea egg ecg | 192 |
| Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro | |
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| ccc | ccc | gcc | gcc | : C(| cc 1 | tcc | ttc | cgc | cag | g | tg : | tcc | tgc | cte | ; a | ag | gag | c1 | tg | 240 |
|------|-------|------|------|------|------|-------|-------|-------|------|-----------|-------|------------|--------------|---------------|------------|--------------|--------------|-----------|-------------|-------|
| Pro | Pro | Ala | Ala | P | ro S | Ser | Phe | Arg | Gln | V | al : | Ser | Cys | Leu | ı L | ys | Glu | Ļţŧ | ₽u | |
| 65 | | | | | | 70 | | | | | | 75 | | | | | | • | ov | 000 |
| gtg | gcc | cga | gte | g c | tg (| cag | agg | ctg | tgc | g | ag | cgc | ggc | gc | g a | ag | aac | g | tg. | 288 |
| Val | Ala | Arg | Va! | L | eu (| Gln | Arg | Leu | Cys | G | lu | Arg | Gly | Ala | a. L | уs | ASII | V | aı | |
| | | | | | 85 | | | | | | 90 | | | | | | 90 | | | 226 |
| ctg | gcc | ttc | gg | c t | tc | gcg | ctg | ctg | gao | ; g | gg | gcc | cgc | gg | g g | ggc | CCC | C | CC | 336 |
| Leu | Ala | Phe | GI; | y P | he | Ala | Leu | Leu | Ası | G | lly | Ala | Arg | GI | y (| żlУ | Pro | r | ľO | |
| | | | 10 | Ω | | | | | 105 | õ | | | | | 1 | 110 | | | | 384 |
| gag. | gcc | ttc | ac | c a | cc | agc | gtg | cgc | ago | ; t | tac | ctg | ccc | aa | C a | acg | gtg | a T | CC The | 304 |
| Glu | Ala | Phe | Th | r I | hr | Ser | Val | Arg | Se | ני"] | ſyr | Leu | Pro |) As | n | Ihr | Val | Ė | Mr. | |
| | | 115 | | | | | | 120 | | | | | | 12 | | | | | ot a | 432 |
| gac | gca | ctg | cg | g g | gg | agc | ggg | gce | tg; | g 8 | ggg | ctg | cts | g ct | g | cgc | Cgc | ; | icg In I | 406 |
| Asp | Ala | Ler | ı Ar | g (| ly | Ser | Gly | ' Ala | a Tr | р (| Gly | Leu | rei | I LE | eu . | Arg | Alf | 5 | aı | • |
| | 130 | | | | | | 135 | | | ٠ | | | 140 | | | a + a | ++- | ٠, | rt or | 480 |
| ggc | gac | gao | gt | g | ctg | gtt | cao | ct | g ct | g | gca | cgc | tge | gg | g | CLC | Dh. | L E | jug Val | 400 |
| Gly | Asp | Ası | y Va | 1 1 | Leu | Val | His | s Le | ı Le | u . | Ala | Arg | . Cy: | s A. | ıa | ьеи | . Pili | ָ | 160 | |
| 145 | | | | | | 150 |) | | | | | 155 | | | | 200 | o t | | | 528 |
| ctg | ; gtg | g gc | t co | cc | agc | tgo | gc | ta : | c ca | g | gtg | tgo | gg | g Ç | eg ee | Dno | , Cu; | 5 11 ' | tac Tvr | 020 |
| Leu | l Val | Al | a Pr | o | Ser | Cys | s Ala | а Ту | r Gl | n | | | S GI | у Р | ľ | TIC | , Бе 17 | ц 5 | 131 | |
| | | | | | 165 | | | | | | 170 | | | | ۰. | mot | | | ታ ታ | 576 |
| cag | g cto | gg | c g | ct | gcc | act | t ca | g gc | c ce | g | CCC | CC) | s CC | a C | ie | 41: | , 06 3 Se | r | Glv | • • • |
| G11 | Le | a Gl | | | Ala | . Thi | c Gl | n Ai | a AI | g | Pro | rr | יון כ | גן ט | 12 | 190 | 1 00 1 | 1 | ulj | |
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| cce | c cg | a ag | g c | gt | ctg | gg | a tg | c ga | a c | gg | gcc | ; ເຮ | s ac | ic c | ite | Se | r Va | ı I | Arg | |
| Pro | o Ar | | | rg | Leu | i GI | у Су | | | rg | Ala | 1 11. | h ve | 21 11 | 05 | SC. | | ~- | · Q | |
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| ga | g gc | c gg | g g | tc | ccc | ct | g gg | C CI | g c | ca | gC. | o Dr | 5 55 5 61 | ju E Inr I | ,∪6 Na | ۸r | o wa o Ai | 7° | Arg | |
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| gg | g gg | c ag | gt g | CC | ago | c cg | a ag | gt c | tg c | cg | t o | g cu | o I | us i | 166 Ino | . Dr | n A | rg so | Arg | |
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| gcc | cac | ccg | ggc Gly | agg | acg | cgt | gga Clu | ccg | agt Ser | gac Asp | cgt Arg | ggt Gly | ttc Phe | tgt Cys | g Va | tg al | 816 |
|------|----------|-------|--------------|-------|--------------|----------------|---------------|--------------|---------------|--------------|---------------|------------------|------------|--------------|------------|------------|------|
| Ala | His | Pro | 260 | Arg | IIII. | Arg | GIJ | 265 | JC. | 1101 | 0 | • | 270 | | | | |
| et.e | tca | cct | o cc | aga | ccc | gçç | gaa | gaa | gcc | acc | tct | ttg | gag | ggt | g | cg | 864 |
| Val | Ser | Pro | Ala | Arg | Pro | Ala | Glu | Glu | Ala | Thr | Ser | геп | Glu | Gly | 7 A | la | |
| | | 275 | | | | | 280 | | | | | 700 | | | | | 912 |
| ctc | tct | ggc | acg | cgc | cac | tcc | cac | cca | tcc | gtg | ggc Clv | Cgc Aro | cag Gln | His | s H | is | V12 |
| Leu | | Gly | Thr | Arg | His | Ser 295 | HIS | Pro | Ser. | Val | 300 | ur 9 | | | | _ | |
| | 290 | 000 | cca | tee | aca | tcg | cgg | cca | cca | cgt | | | gac | ac | g | ct | 960 |
| gcg | Glv | Pro | Pro | Ser | Thr | Ser | Arg | Pro | Pro | Arg | Pro | Trp | Asp | Th | 1 1 | 10 | |
| 205 | | | | | 310 | | | | | 315 |) | | | | • | 020 | 1000 |
| + -+ | ccc | ccg | gtg | tac | gcc | gag | acc | aag | cac | tto | cto | tac | tco | c to | a g | ggc | 1008 |
| Cys | Pro | Pro | Val | Tyr | Ala | Glu | Thr | Lys | His | Pne | e Let | 1 Туг | r Sei | r se 33 | iL ' | at A | • |
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| gac | aag | gag | cag Glr | ctg | cgg | 000 | OOJ COD | UUC Dha | Lei | ı Lei | , as i Sei | r Se | r Le | u Ai | g | Pro | |
| Asp | Lys | Glu | 1 Gin 340 | | Arg | rru | 961 | 345 | , <u>n</u> e. | L | 4 D 0. | | 35 | 0 | | | |
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| Ser | Let | ı Thi | r Gly | y Ala | . Arg | Arg | Let | ı Va | l Gl | u Th | r Il | e rn | е ге | u G | ly | Ser | |
| | | 251 | 5 | | | | 360 |) | | | | 30 | อ | | | | 1152 |
| agg | cc | c tg | g at | g cca | a ggg | g act | t ccc | cg | c ag | g tt | g cc | c cg | C CT | g C | CC. | Gln | 1100 |
| Arg | g Pro | o Tr | p Me | t Pro | o Gly | | | o Ar | g Ar | g Le | u Pr 38 | וט אז. איז טי | g no | ou i | 10 | 4114 | |
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| cgo | e ta | c tg | g ca p Gl | a ati | g cg: | g Cu or Dri | n Le | s co n Ph | e Le | u Gl | u Le | eu Le | eu Gl | ly A | sn | His | |
| 20 | <u>π</u> | | | | 39° | 0 | | | | 38 | 95 | | | | | 100 | |
| 38! | | e te | c cc | c ta | ு ஏர | or ort | g ct | c ct | c aa | g ac | eg ca | ac ta | ge e | cg c | tg | cga | 1248 |
| Al | a Gl | n Cy | s Pr | о Ту | r Gl | y Va | l Le | u Le | eu Ly | rs Tl | ar H | is C | ys P | TO I | ιÇu | 111 6 | |
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| gc | t go | g gt | tc ac | c co | a gc | a go | c gg | t gt | to t | gt g | CC C | gg g | aga | ag (| ouc Pro | cag Gln | |
| Al | a Al | la Va | | | o Al | a Al | a Gl | y Va | al C; | ys A | ia A | rg u | 1u 1 | .ys 1 130 | | Gln | |
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| øtø | cag | ctg | ctc | cgc | cag | cac | agc | agc | ccc | tgg | cag | gtg | tac | ggc | tt | | 1392 |
|-----|-------|--------------|----------------|---------------|----------------|----------------|-----------------|-------|-------------|--------------|---------------|---------------|------------|---------------|----------|------------|------|
| Val | Gln | Leu | Leu | Arg | G1n | His | Ser | Ser | Pro | Trp | 0111 | Val | Tyr | GIÀ | Pn | е | |
| | 450 | | | | | 455 | | | | | 400 | | | | | | 1440 |
| gtg | | gcc | tgc | ctg | cgc | cgg | ctg | gtg | ccc | cca | ggc | ctc | tgg | ggc | TC Ca | c | 1440 |
| Val | Arg | Ala | Cys | Leu | Arg | Arg | Leu | Val | Pro | Pro | Gly | Leu | Trp | GIA | | _ | |
| 105 | | | | | 470 | | | | | 4(0 | | | | | | | 1488 |
| | cac | aac | gaa | . cgc | cgc | ttc | cto | agg | aac | acc | aag | aag | TTC | atc | . C. | : C .m | 1400 |
| Arg | His | Asn | Glu | Arg | Arg | Phe | Let | ı Arg | : Asn | Inr | Lys | Lys | Pne | 110 | , 50 | | |
| | | | | 485 | | | | | 490 | , | | | | 100 | | | 1536 |
| ctg | ggg | aag | cat | gcc | aag | cto | tc ₈ | g cte | cag | gag | cte | g ace | tgg T | , aae | s M | us at | 1000 |
| Leu | Gly | Lys | His | . Ala | . Lys | Let | ı Se | r Lei | ı GII | ı Glı | ı Lei | 1 Tni | 51(| ш | > 111 | 5 L | |
| | | | 500 | 1 | | | | 508 |) | | | | O I (| , | | | 1584 |
| ago | gtg | cgg | g gad | tgo | gc1 | tgs | g ct | g cg | c age | g ago | - Dw | a 888 | g Bu | - 65° ເຊີາ | v C | vs vs | |
| Ser | · Val | Arg | g As | p Cys | s Ala | a Tr |) Le | u Ar | g Ar | g 56. | r rr | 52 | y 10. 5 | 1 (1) | , . | . - | |
| | | 51 | 5 | | | | 52 | 0 | . | ~ ~^ | α ot | | | e aa | e t | tc | 1632 |
| gtt | cce | ge | c gc | a ga | g ca | c cg | t ct | g cg | t ga, | g ga. "Gl | g au 11 11 | 0 00 e 1.e | 11 Al | a. Lv | s P | he | |
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| tt | t ta | t gt | c ac | g ga ir Gl | g a.c m. | ים מני הידו | ng Di | he G | in La | 75 As | sn Ai | rg Le | eu Ph | ne Pl | ne ' | Tyr | |
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| C | at C | 55 5 56 5 | llu A | la A | rg P | ro A | .la l | Leu I | ∠eu 7 | hr S | Ser A | rg I | eu A | rg F | he | He | |
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| gga Gly | gcc Ala | aga Arg | acg Thr | ttc Phe 645 | cgc Arg | aga Arg | gaa Glu | aag Lys | agg Arg 650 | gcc Ala | gag Glu | cgt Arg | ctc Leu | acc Thr 655 | 261 | 1968 |
|-------------------|--------------------|---------------------|---------------------|----------------------------|--------------------|---------------------|--------------------|-----------------------|-------------------|----------------------|--------------------|----------------------|---------------------|-----------------------|------------------------|------|
| Arg | Val | Lys | Ala | ctg Leu | Phe | Ser | Val | Leu 665 | Asn | Tyr | Glu | Arg | 670 | cgg Arg | vi.R | 2016 |
| ccc Pro | Gly | ctc Leu 675 | cte | ggc Gly | gcc Ala | tct Ser | gtg Val 680 | ctg Leu | ggc Gly | ctg Leu | gac Asp | gat Asp 685 | atc Ile | cac His | agg Arg | 2064 |
| gcc Ala | t or o | cgc Arg | acc Thr | ttc Phe | gtg Val | ctg Leu 695 | cgt Arg | gtg Val | cgg Arg | gcc Ala | cag Gln 700 | Asp | ccg Pro | ccg Pro | cct Pro | 2112 |
| gag Glu 705 | ctg Leu | tac | ttt Phe | gtc Val | aag Lys 710 | gtg Val | gat Asp | gtg Val | acg Thr | ggc Gly 715 | Ala | tac Tyr | gac Asp | acc Thr | atc Ile 720 | 2160 |
| ^^ | N 20 | gac Asp | agg Arg | cto Lev 725 | acg Thr | gag | gto Val | ato | gco Ala 730 | ı Sei | ator Ile | ato lle | aaa Lys | a ccc s Pro 735 | cag Gln | 2208 |
| aa As: | c acg | tao Ty | tgo c Cy: 740 | e gtg s Val | cet | cgg Arg | tat Tyl | t gcc r Ala 749 | ı Va. | g gto l Va | cag I Gli | g aag n Lys | g gc s Ala 75 | d. A16 | cat His | 2256 |
| gg Gl | g ca y Hi | c gto s Va 75 | c cg | c aas | g gco s Ala | tto a Pho | aaq a Ly: 76 | s Se | c ca r Hi | c gt s Va | c tc 1 Se | t acc r Thi 76 | г ге | g aca u Th | a gac r Asp | 2304 |
| ct Le | c ca u Gl 77 | g cc n Pr | o ta | c at r Me | g cg t Ar | a ca g Gl: 77 | n Ph | c gt e Va | g gc l Al | t ca a Hi | c ct s Le 78 | u G1 | g ga n Gl | ig ac .u Th | c agc r Ser | 2352 |
| Pı | g ct ro Le | or 20 | g ga g As | t gc sp Al | c gt a Va 79 | c gt 1 Va | c at | c ga e Gl | g ca u Gl | ig ag in Se 79 | er 56 | ec to er Se | c ct r Le | tg aa eu As | t gag in Glu 800 | 2400 |
| 78 g: A | 00 00 | gc ag er Se | gt ga er Gl | ly Le | c tt eu Ph | c ga | ic gt sp Vá | tc tt al Ph | ie Le | ta c | ge ti | tc at ne Me | g to et C | gc ca ys Hi 81 | nc cac is His 15 | 2448 |
| g A | cc g la Va | tg c | rg I | 80 tc ag 1e Ai 20 | e de | gc aa ly Ly | ag to ys So | er T | ac g | tc c | ag t | gc ca ys G | in u | gg at ly I 30 | tc ccg le Pro | 2496 |

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|----------|-------|------------|----------|---------------|--------------|---------------|--------|-------|-------------|--------------|-----------------|----------|----------------|--------------|---------------|----------|--------|-------|
| cag | ggc | tcc | atc | ctc | tcc | acg | ctg | CTC | Cyc | agc car | Len | Cvs | Tvr | G1 | y | Asp | | |
| Gln | Gly | | He | Leu | 26L | Inr | 840 | ьeu | Cys | Der | поц | 845 | | • | | _ | | |
| 4 | | 835 | 224 | ctg | +++ | ダでダ | | att | cgg | cgg | gac | | ctg | ct | Ċ¢ · | ctg | | 2592 |
| atg | gag | Acn | Ive | Leu | Phe | Ala | Gly | Ile | Arg | Arg | Asp | Gly | Leu | Le | eu : | Leu | | |
| | 850 | | | | | 855 | | | | | 860 | | | | | | | |
| ogt | ++0 | gtg | gat | gat | ttc | ttg | ttg | gtg | aca | cct | cac | ctc | acc | ca | ac | gcg | | 2640 |
| Arg | Leu | Val | Asp | Asp | Phe | Leu | Leu | Val | Thr | Pro | His | Leu | Thr | H | 18 | на | • | |
| 965 | | | | | 870 | | | | | 875 | | | | | | oov | | 9000 |
| aaa | acc | ttc | ctç | agg | acc | ctg | gtc | cga | ggt | gtc | cct | gag | tat | g | gc | tgc | ; | 2688 |
| Lys | Thr | Phe | Leu | Arg | Thr | Leu | Val | Arg | Gly | Val | Pro |) GIT | ı Tyı | . G | ŢУ | Cys | • | |
| | | | | 885 | • | | | | 890 | | | | v oraș | | 95 ac | gae | , | 2736 |
| gtg | gtg | aac | : ttg | cgg | aag | aca | gtg | gtg | aac | . LLC Dhe | Dr. | n Val | a Book IGI: | or.s or·A | ae | Glu |)] | |
| Val | Val | Asr | | ı Arg | Lys | Inr | val | 905 | ASI | 1 1116 | , 110 | , Tu. | 91 | 0 | · | | | |
| | | | 900 | acg | · cot | . +++ | · ortt | | | z ccs | gge | c ca | | | ta | tto | 2 | 2784 |
| gcc | ctg | ggi | gg(| tace Thr | , got | Phe | Val | Gln | Met | t Pro | o Ala | a Hi | s Gl | y. I | ,eu | Phe | е | |
| Ala | теп | 91 | | , 1111 | 1110 | | 920 | } | - | | | 92 | 5 | | | | | |
| eee | f.grg | r tø | r grgri | c cte | cte | cta | g gat | acc | cg | g ac | c ct | g ga | g gt | g (| ag | ag | С | 2832 |
| Pro | Tri | , -с Су | s Gl; | y Lei | ı Lei | ı Let | ı Ası | Thi | Ar: | g Th | r Le | u Gl | u Va | .1 (| 3ln | Se | r | |
| | 930 |) | | | | 93! | 5 | | | | 94 | 0 | | | | | | 2880 |
| gao | tac | tc | c ag | c ta | t gc | c cg | g ac | e to | at | c ag | a gc | c ag | t ct | C (| acc The | ՆՆ Dh | C | 2000 |
| Asp | Ty: | r Se | r Se | r Ty: | | | g Th | r Se | r II | e Ar | g Al | a 50 | ir re | eu | 1111 | 96 | :0 | |
| 945 | 5 | | | | 95 | 0 | | | + | 95 | | 10 25 | a ri | te : | t .t.t | | | 2928 |
| aad | c cg | c gg | c tt | c aa | g gc | t gg | g ag | g aa | cat Ma | g cg | נו כצ יסי ∆ז | se ac | ra Co 78 Le | 211 | Phe | . G1 | y | |
| Ası | ı Ar | g Gl | y Ph | e Ly | | a GI | y Ar | g as | и ме 97 | ית יח | 5 M | . B . D. | , 5 | - | 978 | 5 | - 0 | |
| | | | 4 | 96 g aa | ე თ. + ო | t na | උ වර | c ct | | | e ga | at ti | tg c | | | | a¢ | 2976 |
| gt | CUU | g cg | gg Ci | g aa eu Ly | ຮູບຮ ເຄີຍ | c Co 's Hi | s Se | r Le | u Ph | ie Le | eu As | sp Le | eu G | ln | Va. | l As | sn | |
| ٧a | 1 Le | u Ai | 98 98 | | 3 C) | 2 11 1 | .5 50 | 98 | 5 | | | | 9 | 90 | | | | |
| ລຕ | c ct | · C · C · | ag a(| e et | g te | tc ac | c az | ic at | c ta | ac as | ag a | tc c | tc c | tg | ct | g ca | ag | 3024 |
| as 92 | r Le | eri G | ln Ti | nr Va | ıl Cy | s Tl | ir As | an Il | e T | yr L | ys I | le L | eu L | eu | Le | u G | ln | |
| | | Q | 95 | | | | 10 | 000 | | | | | 100 | Ç | | | | 0.050 |
| go | g ta | nc 3 | oo t | tt ca | ac go | ca t | gt gʻ | tg ct | tg c | ag c | tc c | ca t | tt c | at | ca | g ¢ | aa | 3072 |
| Αl | a Ty | r A | rg P | he H | is A | la C | ys Va | al Le | eu G | ln L | eu P | ro P | ne n | lis | Gl | n - G | ln | |
| | | 010 | | | | | 101 | 5 | | | | 1 | 020 | | | | | |

<220>

| | | | | | | | | | | | | | | | | 0100 |
|------|-------|-------|---------|-------|------------|----------------------|-------|--------|--------|---------------|--------------|------------|----------------|-------|------------|------------------|
| gtt | tgg | aag | aac | ccc | aca | ttt | ttc | ctg | cgc | gtc | atc | tct | gac | acg | gcc | 3120 |
| Val | Trp | Lys | Asn | Pro | Thr | Phe | Phe | Leu | Arg | Val | He | 5er | Asp | Thr | Ala | 1040 |
| 1025 | | | | | 10 |)30 | | | | | 1035 |) | | | | 3168 |
| tec | ctc | tgc | tac | tcc | atc | ctg | aaa | gcc | aag | aac | gca | ggg | atg | tcg | cug | 2100 |
| Ser | Leu | Cys | Tyr | Ser | He | Leu | Lys | Ala | Lys | Asn | Ala | Gly | Met | Ser | Leu | |
| | | | | 1049 | 5 | | | | |)50 | | | | | 1055 | 3216 |
| ggg | gcc | aag | ggc | gcc | gcc | ggc | cct | ctg | ccc | tcc | gag | gcc | gtg | cag | Lgg Tun | 3210 |
| Gly | Ala | Lys | Gly | Ala | Ala | Gly | Pro | Leu | Pro | Ser | Glu | Ala | vaı | ATII | Irp | |
| | | | 1060 |) | | | | 10 | 065 | | | | | TOV | J | 3264 |
| ctg | tgc | çac | caa | gca | ttc | ctg | ctc | aag | ctg | act | cga | cac | cgt | gtc | Thn | 520 1 |
| Leu | Cys | His | Gln | Ala | Phe | Leu | Leu | Lys | Leu | Thr | Arg | HIS | Arg 108 | Val | IIII. | |
| | | 107 | 5 | | | | | 080 | | | | | | | ort | 3312 |
| tac | gtg | сса | . ctc | ctg | ggg | tca | ctc | agg | aca | gcc | cag | acg m- | Cag | LUE | agt | 0014 |
| Tyr | Val | Pro | Leu | Leu | Gly | | | Arg | Thr | Ala | . Gin | 110 | .v ∴rtti | греп | Ser | |
| | 109 | 0 | | | | | 095 | | | | | | | › | ່ອລເ | 3360 |
| cgg | aag | cto | ccg | ggg | ace | g.acg | ctg | act | gcc | CTE | gag . Clu | , goo | , gυς . Δ1: | a Als | aac Asn | 0000 |
| Arg | Lys | Let | Pro | Gly | | | Let | 1 Thr | . Ala | Let | 111 | K I Wic | LAL | ı Ale | . Asn | 1120 |
| 110 | 5 | | | | | 1110 | | | +. | + . | • | | | | | 3396 |
| ccg | gça | i cte | g ccc | tca | a gao | tto | aag | z acc | ti. | ; UU . To: | S Bac | ` | | | | |
| Pro | Ala | ı Lei | ı Pro | | | o Phe | E LY: | S 1111 | . 116 | : Dec | i vəf | , | | | | |
| | | | | 112 | 2 5 | | | | 1 | | | | | | | |
| | .0> 3 | | | | | | | | | | | | | | | |
| | 1> 2 | | | | | | | | | | | | | | | |
| | 12> 1 | | ۰ | 1 0 | | | | | | | | | | | | |
| | | Artı | ficia | a1 5 | eque | nce | | | | | | | | • | | |
| <22 | 20> | | | ٠ | - | .+;f; | nial | Sec | Henci | e: 81 | rtifi | icia. | llys | synth | esized | d primer |
| | | | ript. | ton |)] AI | CILI | Clai | Dog | uciio. | . | | | • | • | | |
| | quen | | | | | | | | | | | | | | | |
| - | <00> | | ma ma m | anta | att | œ | | | | | | | | | | 21 |
| | | | ggc | calo | iacc | 5 | | | | | | | | | | |
| | 10> | | | | | | | | | | | | | | | |
| | 11> | | | | | | | | | | | | | | | |
| | | DNA | ifici | al S | Zeou. | ence | | | | | | | | | | |
| <Ζ | 172> | WI, f | IIICI | .a1 \ | ooda | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

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|---|--|----------|
| | sequence | |
| | <400> 34 | 20 |
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| | <210> 35 | |
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| | <220> <223> Description of Artificial Sequence: artificially synthesized | Pr imor |
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| | atggatetee tgaaggtget | |
| , | <210> 36 | |
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| | <212> DNA | |
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| | <220> | d primer |
| | <220> <223> Description of Artificial Sequence: artificially synthesized | • |
| | sequence | |
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| | <220> | |

| <223> Description of Artificial Sequence: artificially | synthesized primer |
|---|-----------------------|
| sequence | |
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| <210> 39 | • |
| <211> 24 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| <220> | thorized nnimer |
| <220> <223> Description of Artificial Sequence: artificially | y synthesized primer |
| sequence | |
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| gccaacacca acctgtccaa gttc | 4 T |
| <210> 40 | |
| <211> 24 | |
| <212> DNA | |
| <213> Artificial Sequence | · . |
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| <210> 41 | |
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| sequence | |
| <400> 41 | 19 |
| etetetete teaggacaa | |
| <210> 42 | • |
| <211> 22 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| <220> | |

| • | <223> Description of Artificial Sequence: artificially synthesized p | I.IMel. |
|---|--|--------------|
| | sequence | |
| | <400> 42 | 22 |
| | tggagcaaaa cagaatggct gg | |
| | <210> 43 | |
| | <211> 24 | |
| | <212> DNA | |
| | <213> Artificial Sequence | |
| | <220> | orimer |
| | <220> <223> Description of Artificial Sequence: artificially synthesized page 1. | , , ,,,,,,,, |
| | sequence | |
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| | ctgagatgtc tctctctctc ttag | |
| | <210> 44 | |
| | <211> 20 | |
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| | sequence | |
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| | sequence | • |
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| | cagacctgaa ggagacct | |
| | <210> 46 | |
| | <211> 18 | |
| | <212> DNA | |
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| | | |

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| gtcagcgtaa acagttgc | 10 |
| <210> 47 | |
| <211> 20 | |
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| <220> | nimor |
| <223> Description of Artificial Sequence: artificially synthesized p | Limer |
| sequence | |
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| <210> 48 | |
| <211> 20 | |
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| sequence | |
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| ctgtggttca gggctcagtc | |
| <210> 49 | |
| <211> 20 | |
| <212> DNA | |
| <213> Artificial Sequence | |
| <220> | primer |
| <223> Description of Artificial Sequence: artificially synthesized | F2 |
| sequence | |
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|--|------------------------|
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| tagcgacggt tctggaacca | 20 |
| <210> 51 | , |
| <211> 20 | |
| <212> DNA | : |
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| sequence | |
| <400> 51 | 00 |
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| <210> 52 | • |
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| <212> DNA | |
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| <220> | the sized uniman |
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| sequence | |
| <400> 52 | 20 |
| ccaagtccga gcaggaattt | 20 |
| <210> 53 | |
| <211> 20 | • |
| <212> DNA | |
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| <220> | 11 the giged naimor |
| <223> Description of Artificial Sequence: artificia | Ily synthesized primer |
| sequence | |
| <400> 53 | 20 |
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| <210> 54 | |
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| <220> | |

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| <223> Description of Artificial Sequence: artificially syn | nthesized brimer |
|---|---------------------|
| sequence | |
| <400> 54 | 20 |
| aaaggagcac actttggtgg | 20 |
| <210> 55 | |
| <211> 20 | • |
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| 999 | (besigned primary |
| <220> <223> Description of Artificial Sequence: artificially sy | Inthesized primer |
| sequence | |
| <400> 55 | 20 |
| agcaagaata cgatgccatc | 20 |
| <210> 56 | |
| <211> 20 | |
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| <220> | |
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| synthesized primer sequence | |
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| gaaggggtgg tggtacggtc | 20 |
| <210> 57 | |
| <211> 20 | |
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| <220> | avnthesized primer |
| <220> <223> Description of Artificial Sequence: artificially | Synthesized by rmor |
| sequence | |
| <400> 57 | 20 |
| tgggaatggc tatgtcagtg | 20 |
| <210> 58 | |
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35

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| Asp Ser Pro Val Ala Ser Pro Ala Arg Pro Gly Thr Leu Arg Asp Pro 50 55 60 |
|--|
| Arg Ala Pro Ser Val Gly Arg Arg Gly Ala Arg Ser Ser Arg Leu Gly 65 70 75 80 |
| Ser Gly Gln Arg Gln Ser Ala Ser Glu Arg Glu Lys Leu Arg Met Arg 85 90 95 |
| Thr Leu Ala Arg Ala Leu His Glu Leu Arg Arg Phe Leu Pro Pro Ser 100 105 110 |
| Val Ala Pro Ala Gly Gln Ser Leu Thr Lys Ile Glu Thr Leu Arg Leu 115 120 125 |
| Ala Ile Arg Tyr Ile Gly His Leu Ser Ala Val Leu Gly Leu Ser Glu 130 135 140 |
| Glu Ser Leu Gln Arg Arg Cys Arg Gln Arg Gly Asp Ala Gly Ser Pro 145 150 155 160 |
| Arg Gly Cys Pro Leu Cys Pro Asp Asp Cys Pro Ala Gln Met Gln Thr 165 170 175 |
| Arg Thr Gln Ala Glu Gly Gln Gly Gln Gly Arg Gly Leu Gly Leu Val 180 185 190 |
| Ser Ala Val Arg Ala Gly Ala Ser Trp Gly Ser Pro Pro Ala Cys Pro 195 200 205 |
| Gly Ala Arg Ala Ala Pro Glu Pro Arg Asp Pro Pro Ala Leu Phe Ala 210 215 220 |
| Glu Ala Ala Cys Pro Glu Gly Gln Ala Met Glu Pro Ser Pro Pro Ser 225 230 235 240 |

| Pro Leu Leu Pro Gly Asp Val Leu Ala Leu Leu Glu Thr Trp Met Pro 255 255 | |
|---|-----|
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| <220> | |
| <221> CDS | |
| <223> (1)(807) | |
| and other tree gag tee tight and the | 48 |
| atg gcc cag ccc ctg tgc ccg ccc sos 3-5 Met Ala Gln Pro Leu Cys Pro Pro Leu Ser Glu Ser Trp Met Leu Ser 10 15 | |
| E | |
| 1 | 96 |
| gcg gcc tgg ggc cca act cgg cgg ccg ccc tcc gac aag gac tgc | 30 |
| gcg gcc tgg ggc cca act tgg tgg tcg tcg tcg tcg tcg tcg tcg t | |
| 20 25 | |
| the man age age age gec | 144 |
| ggc cgc tcc ctc gtc tcg tcc cca gac tca tgg ggc agc acc cca gcc | |
| Gly Arg Ser Leu Val Ser Ser Pro Asp Bor 117 -117 | |
| 35 40 | |
| and one age acc etc egg gac ecc | 192 |
| gac age eee gtg geg age eee geg egg eea gge ace ete egg gac eee | |
| Asp Ser Pro Val Ala Ser Pro Ala Ala III di Con | |
| 50 | |
| to not our our our gre gre cac age age cgc ctg gge | 240 |
| cgc gcc ccc tcc gta ggt agg cgc ggc gcg cgc agc agc cgc ctg ggc Arg Ala Pro Ser Val Gly Arg Arg Gly Ala Arg Ser Ser Arg Leu Gly | |
| Arg Ala Pro Ser Val Gly Arg Arg Gly And Mag 75 | |

age ggg cag agg cag age gcc agt gag egg gag aaa etg ege atg ege

Ser Gly Gln Arg Gln Ser Ala Ser Glu Arg Glu Lys Leu Arg Met Arg

70

85

65

75

| acg ctg gcc cgc gcc ctg cac gag ctg cgc cgc ttt cta ccg ccg tcc Thr Leu Ala Arg Ala Leu His Glu Leu Arg Arg Phe Leu Pro Pro Ser 100 105 110 | 336 |
|---|-----------------------|
| gtg gcg ccc gcg ggc cag agc ctg acc aag atc gag acg ctg cgc ctg Val Ala Pro Ala Gly Gln Ser Leu Thr Lys Ile Glu Thr Leu Arg Leu 115 120 125 | 384 |
| gct atc cgc tat atc ggc cac ctg tcg gcc gtg cta ggc ctc agc gag Ala Ile Arg Tyr Ile Gly His Leu Ser Ala Val Leu Gly Leu Ser Glu 130 135 140 | ; 432 i |
| gag agt ctc cag cgc cgg tgc cgg cag cgc ggt gac gcg ggg tcc ccf Glu Ser Leu Gln Arg Arg Cys Arg Gln Arg Gly Asp Ala Gly Ser Pro 145 150 155 | • |
| cgg ggc tgc ccg ctg tgc ccc gac gac tgc ccc gcg cag atg cag ac Arg Gly Cys Pro Leu Cys Pro Asp Asp Cys Pro Ala Gln Met Gln Th 165 170 170 | a 528 r |
| cgg acg cag gct gag ggg cag ggg cag ggg cgc ggg ctg ggc ctg gt Arg Thr Gln Ala Glu Gly Gln Gly Gln Gly Arg Gly Leu Gly Leu Va 180 185 190 | a 576 al |
| tcc gcc gtc cgc gcc ggg gcg tcc tgg gga tcc ccg cct gcc tgc cc Ser Ala Val Arg Ala Gly Ala Ser Trp Gly Ser Pro Pro Ala Cys P 200 205 | cc 624 ro |
| gga gcc cga gct gca ccc gag ccg cgc gac ccg cct gcg ctg ttc g Gly Ala Arg Ala Ala Pro Glu Pro Arg Asp Pro Pro Ala Leu Phe A 210 215 220 | cc 672 la |
| gag gcg gcg tgc cct gaa ggg cag gcg atg gag cca agc cca ccg f Glu Ala Ala Cys Pro Glu Gly Gln Ala Met Glu Pro Ser Pro Pro S 225 230 235 | ccc 720 Ser 240 |

| ccg ctc ctt ccg ggc gac gtg ctg gct ctg ttg gag acc tgg atg ccc Pro Leu Leu Pro Gly Asp Val Leu Ala Leu Leu Glu Thr Trp Met Pro 245 250 255 | 768 |
|---|-----|
| ctc tcg cct ctg gag tgg ctg cct gag gag ccc aag Leu Ser Pro Leu Glu Trp Leu Pro Glu Glu Pro Lys 260 265 | 804 |
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| Val Leu Cys Leu Gln Ala Gln Val Thr Val Gln Ser Ser Pro Asn Phe 20 25 30 | |
| Thr Gln His Val Arg Glu Gln Ser Leu Val Thr Asp Gln Leu Ser Arg 40 45 | |
| Arg Leu Ile Arg Thr Tyr Gln Leu Tyr Ser Arg Thr Ser Gly Lys His 50 55 60 | |
| Val Gln Val Leu Ala Asn Lys Arg Ile Asn Ala Met Ala Glu Asp Gly 65 70 75 80 | |
| Asp Pro Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly Ser Arg | |
| Val Arg Val Arg Gly Ala Glu Thr Gly Leu Tyr Ile Cys Met Asn Lys 100 105 110 | |
| Lys Gly Lys Leu Ile Ala Lys Ser Asn Gly Lys Gly Lys Asp Cys Val | , |

115

| Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Leu Gln Asn Ala 130 135 140 | |
|--|-----|
| Lys Tyr Glu Gly Trp Tyr Met Ala Phe Thr Arg Lys Gly Arg Pro Arg 145 150 155 160 | |
| Lys Gly Ser Lys Thr Arg Gln His Gln Arg Glu Val His Phe Met Lys 165 170 175 | |
| Arg Leu Pro Arg Gly His His Thr Thr Glu Gln Ser Leu Arg Phe Glu 180 185 190 | |
| Phe Leu Asn Tyr Pro Pro Phe Thr Arg Ser Leu Arg Gly Ser Gln Arg 195 200 205 | |
| Thr Trp Ala Pro Glu Pro Arg 210 | • |
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| <223> (1)(648) | |
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| Mot Cly Ser Pro Arg Ser Ala Leu Ser Cys Leu Leu His Bod Bod | |
| 1 5 10 15 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17 | |
| | 96 |
| gtc ctc tgc ctc caa gcc cag gta act gtt cag tcc tca cct aat ttt Val Leu Cys Leu Gln Ala Gln Val Thr Val Gln Ser Ser Pro Asn Phe | |
| Val Leu Cys Leu Gin Ala Gin val Im val Gin 30 | |
| aca cag cat gtg agg gag cag agc ctg gtg acg gat cag ctc agc cgc | 144 |
| aca cag cal gig ass sub cons as sig of o | |

| Thr Gln His Val Arg Glu Gln Ser Leu Val Thr Asp Gln Leu Ser Arg 35 40 45 | |
|---|-----|
| cgc ctc atc cgg acc tac caa ctc tac agc cgc acc agc ggg aag cac Arg Leu Ile Arg Thr Tyr Gln Leu Tyr Ser Arg Thr Ser Gly Lys His 50 55 60 | |
| gtg cag gtc ctg gcc aac aag cgc atc aac gcc atg gca gag gac ggc Val Gln Val Leu Ala Asn Lys Arg Ile Asn Ala Met Ala Glu Asp Gly 65 70 75 80 | |
| gac ccc ttc gca aag ctc atc gtg gag acg gac acc ttt gga agc aga 28 Asp Pro Phe Ala Lys Leu Ile Val Glu Thr Asp Thr Phe Gly Ser Arg 85 90 95 | 8 |
| gtt cga gtc cga gga gcc gag acg ggc ctc tac atc tgc atg aac aag Val Arg Val Arg Gly Ala Glu Thr Gly Leu Tyr Ile Cys Met Asn Lys 100 105 110 | 36 |
| aag ggg aag ctg atc gcc aag agc aac ggc aaa ggc aag gac tgc gtc 38 Lys Gly Lys Leu Ile Ala Lys Ser Asn Gly Lys Gly Lys Asp Cys Val 115 120 125 | 84 |
| ttc acg gag att gtg ctg gag aac aac tac aca gcg ctg cag aat gcc 4 Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr Ala Leu Gln Asn Ala 130 135 140 | 32 |
| aag tac gag ggc tgg tac atg gcc tte acc cgc aag ggc cgg ccc cgc Lys Tyr Glu Gly Trp Tyr Met Ala Phe Thr Arg Lys Gly Arg Pro Arg 145 150 155 160 | 180 |
| aag ggc tcc aag acg cgg cag cac cag cgt gag gtc cac ttc atg aag Lys Gly Ser Lys Thr Arg Gln His Gln Arg Glu Val His Phe Met Lys 165 170 175 | 528 |
| ogg etg eec egg gge cae cae ace ace gag eag age etg ege tte gag | 576 |

| Arg Leu Pro Arg Gly His His Thr Thr Glu Gln Ser Leu Arg Phe Glu 180 185 190 | |
|---|-----|
| ttc ctc aac tac ccg ccc ttc acg cgc agc ctg cgc ggc agc cag agg Phe Leu Asn Tyr Pro Pro Phe Thr Arg Ser Leu Arg Gly Ser Gln Arg 195 200 205 | 624 |
| act tgg gcc ccg gaa ccc cga Thr Trp Ala Pro Glu Pro Arg 210 215 <210> 65 <211> 212 | 645 |
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| Gly Ala Pro Glu Thr Ala Val Leu Gly Ala Glu Leu Ser Ala Val Gly 20 25 30 | |
| Glu Asn Gly Gly Glu Lys Pro Thr Pro Ser Pro Pro Trp Arg Leu Arg 35 40 45 | |
| Arg Ser Lys Arg Cys Ser Cys Ser Ser Leu Met Asp Lys Glu Cys Val 50 55 60 | |
| Tyr Phe Cys His Leu Asp Ile Ile Trp Val Asn Thr Pro Glu His Val 65 70 75 80 | |
| Val Pro Tyr Gly Leu Gly Ser Pro Arg Ser Lys Arg Ala Leu Glu Asn 85 90 95 | |
| Leu Leu Pro Thr Lys Ala Thr Asp Arg Glu Asn Arg Cys Gln Cys Ala 100 105 110 | |

15

<400> 66

1

| Ser Gln Lys Asp Lys Lys Cys Trp Asn Phe Cys Gln Ala G | ly Lys Glu |
|---|--------------------|
| Leu Arg Ala Glu Asp Ile Met Glu Lys Asp Trp Asn Asn H 130 135 140 | lis Lys Lys |
| Gly Lys Asp Cys Ser Lys Leu Gly Lys Lys Cys Ile Tyr (| Gln Gln Leu 160 |
| Val Arg Gly Arg Lys Ile Arg Arg Ser Ser Glu Glu His 165 170 | Leu Arg Gln 175 |
| Thr Arg Ser Glu Thr Met Arg Asn Ser Val Lys Ser Ser 180 185 | Phe His Asp 190 |
| Pro Lys Leu Lys Gly Lys Pro Ser Arg Glu Arg Tyr Val 195 200 205 | Thr His Asn |
| Arg Ala His Trp 210 <210> 66 <211> 636 <212> DNA <213> Homo sapiens <220> <221> CDS | |
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atg gat tat ttg ctc atg att ttc tct ctg ctg ttt gtg gct tgc caa

Met Asp Tyr Leu Leu Met Ile Phe Ser Leu Leu Phe Val Ala Cys Gln

5

| gag a Glu | aac Asn | ggc Gly 35 | ggg Gly | gag Glu | aaa Lys | ecc a Pro " | act of Thr H 40 | ecc a Pro S | agt (Ser) | cca Pro | ccc Pro | tgg Trp 45 | cgg Arg | ctc Leu | Ar | - | 144 |
|------------------|----------------------|----------------------|----------------|----------------------|--------------------|-----------------------|-----------------------|-------------------|----------------------|--------------------|--------------------|-----------------------|----------------|------------------|----------------|-------------------|-----|
| cgg Arg | tcc Ser 50 | aag Lys | cgc Arg | tgc Cys | tcc Ser | tgc Cys 55 | tcg Ser | tcc (Ser) | ctg Leu | atg Met | gat Asp 60 | aaa Lys | gag Glu | tgt Cys | gt Va | c I | 192 |
| tac Tyr 65 | ttc Phe | tgc Cys | cac His | ctg Leu | gac Asp 70 | atc Ile | att Ile | tgg Trp | gtc Val | aac Asn 75 | act Thr | ccc Pro | gag Glu | cac | , V C | t al 80 | 240 |
| gtt Val | ccg Pro | tat Tyr | gga Gly | ctt Leu 85 | gga Gly | agc Ser | cct Pro | agg Arg | tcc Ser 90 | aag Lys | aga Arg | gcc | ttg Leu | gag G10 95 | LA | at sn | 288 |
| tta Leu | ctt | cco Pro | aca Thr | Lys | ; gca ; Ala | aca Thr | gac Asp | cgt Arg 105 | gag Glu | aat Asn | aga Arg | tgo ; Cys | caa Glr | ı Çy | t g s A | ct .Ia | 336 |
| agc Ser | caa Gli | a aaa n Lys 11 | s Asp | aag Lys | g aag s Lys | tgc Cys | tgg Trp 120 | Asn | ttt Phe | tgo Cys | caa Gli | a gca n Ala 129 | 1 (1) | a aa y Ly | ag s | gaa Hu | 384 |
| cto | e ag: 1 Ar: 13 | g Al | t gaa a Gl | a ga u As | c att p Ile | t atg e Met 135 | : Glu | ; aaa i Lys | gao S As i | e tgg p Trj | g aa p As 14 | n As | t ca n Hi | t aa s Ly | ng a | aaa Lys | 432 |
| gga G1; | y Ly | a ga s As | ic tg sp Cy | t tc s Se | c aa r Ly 15 | s Lei | t ggs 1 Gl: | g aaa y Lys | a aa; s Ly | g tg s Cy 15 | SII | t ta e Ty | it ca r Gl | ig ca In G | 111 | tta Leu 160 | 480 |
| gt Va | g ag 1 An | ga gg rg G | ga ag ly Ai | ga aa ng Ly 16 | na at vs Il | c ag e Ar | a ag g Ar | a ag g Se | t tc r Se 17 | r Gl | ıg ga lu Gl | aa ca lu Hi | ac ct is Le | eu n | ga rg 75 | caa Gln | 528 |

| acc Thr | agg Arg | tcg Ser | gag Glu 180 | acc Thr | atg Met | aga Arg | aac Asn | agc Ser 185 | gtc Val | aaa Lys | tca Ser | tct Ser | ttt Phe 190 | cat His | gat Asp | 576 |
|---------------|--------------|-------------------|-------------------|------------|------------|------------|-------------------|-------------------|------------|-------------|------------|-------------------|-------------------|------------|------------|----------|
| ccc Pro | aag Lys | ctg Leu 195 | aaa Lys | ggc Gly | aag Lys | ccc Pro | tcc Ser 200 | aga Arg | gag Glu | cgt Arg | tat Tyr | gtg Val 205 | acc Thr | cac His | aac Asn | 624 |
| Arg <210 <211 | - | His 7 43 | tgg Trp | | | | | | | | | | | | | 636 |
| <213 | 3> H n> 6 | omo 7 | sapi | | , Dha | e Leu | I.e.i | T.et | ı Thi | r Lei | ı Lei | 1 Ala | ı Leu | ı Let | ı Ala | a |
| 1 | | | | | ő | | | | 19 | 0 . | | | | 7: |) | |
| Leu | Thr | Ser | • Ala 20 | | l Ala | a Lys | Lys | 25 25 | s As; 5 | р Гу: | s Va | l Ly: | s Ly: 30 | s Gl; O | y Gl | у |
| Pro | Gly | y Sei 3! | | 1 Су | s Ala | a Glu | ı Trı 40 | | a Tr | p Gl | y Pr | o Cy 4 | s Th | r Pr | o Se | r |
| Ser | Ly: | | р Су | s Gl | y Va | 1 G1; 5 | | e Ar | g Gl | u Gl | y Th | r Cy 10 | s Gl | y Al | a Gl | n |
| Thi | | n Ar | g Il | e Ar | | s Ar '0 | g Va | l Pr | o Ci | rs As | n Tr 75 | p Ly | rs Ly | 's G | Lu Ph | 1e 30 |
| G1; | y Al | a As | вр Су | | /s T 35 | r Ly | s Ph | e G | lu As | sn Ti 90 | rp G | ly Al | la Cy | vs As | sp G 95 | ly |
| Gl | y Th | ır G] | | nr L | ys Va | al Ar | g Gl | | ly T 05 | hr L | eu L | ys L | ys A | la A 10 | rg T | yr |

| Asn | Ala | Gln 115 | Cys | Gln (| Glu ′ | Thr : | lle <i>1</i> 120 | Arg ' | Val | Thr | Lys | Pro (125 | Cys ' | Thr I | Pro | |
|-----------|---------------|------------|--------------|-------|-------|-------------|---------------------|-------|----------------|----------------|------------|--------------|----------|-------|------------|-----|
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| | L> 42 | | | | | | | | | | | | | | | |
| | 2> D1 | | | | | | | | | | | | | | | |
| | | omo s | sapie | ens | | | · | | | | | | | | | |
| <220 | | פת | | | | | | | | | | | | | | |
| | 1> Cl 3> (|) 1) | (432) |) | , | | | | | | | | | | | |
| <40 | n> 6. | 8 | | | | · | | | | | | | | | | |
| ator | റമമ | cac | cga | ggc | ttc | ctc | ctc | ctc | acc | ctc | ctc | gcc | ctg | ctg | 0+0 | 48 |
| Met | G1n | His | Arg | Gly | Phe | Leu | Leu | Leu | Thr | Leu | Leu | Ala | Leu | ьeu | Ala | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| | | | | | | | | 000 | aat | วอช | ote | า ลลฮ | ลลฐ | ggc | ggc | 96 |
| ctc | acc | tee | gcg | gtc | gcc | lve | Lvs | Lvs | Asp | Lys | Va] | aag Lys | Lys | Gly | Gly | |
| Leu | inr | , 26ĭ. | A1a 20 | | Ala | T) 3 | п, с | 25 | , | | | | 30 |) | | |
| | | | | | | | | | | | | | | | | |
| CCE | ggg | gago | gag | tgc | gct | gag | tgg | gcc | tgg | ggg | g cc | c tgc | acc | ccc | agc | 144 |
| Pro | Gly | y Ser | Glu | Cys | Ala | . Glu | Trp | Ala | Tr | Gly | Pr | o Cys | Ini | r Pro | Ser | |
| | | 35 | | | | | 40 |) | | | | 45 | , | | | |
| | | • | | | | , | LL | | | - ca | | n tor | 0.00 | ታ ልርር | cag | 192 |
| age | c aa | g gai | t tgo | ggo | gte | ggt | TTC Dhe | Cg(| ; gay r Cli | ց 65° ս 61° | v Th | r Cvs | 61: | y Ala | cag Gln | |
| Se | | | y Cys | s G13 | / vai | . G13 55 | , Luc | AL | 5 (11) | u u, | 6 | 0 | | | | |
| | 5 | U | | | | U | , | | | | | | | | | |
| 20 | റ റു | ወ ቦወ | c ati | c cgs | g tgo | c ags | g gtg | g cc | c tg | c aa | c te | g aa | g aa | g gai | g ttt | 240 |
| Z.C Th | r Gl | n Ar | g Il | e Ar | g Cy: | s Ar | g Va | l Pr | о Су | s As | n Tr | p Ly | s Ly | s Gl | птие | |
| | 5 | | - | | 7 | | | | | 7 | 5 | | | | 80 | |

gga gcc gac tgc aag tac aag ttt gag aac tgg ggt gcg tgt gat ggg

Gly Ala Asp Cys Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly

gge aca gge ace aaa gte ege caa gge ace etg aag aag geg ege tae Gly Thr Gly Thr Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr aat get eag tge eag gag ace ate ege gte ace aag eee tge ace eee Asn Ala Gln Cys Gln Glu Thr Ile Arg Val Thr Lys Pro Cys Thr Pro aag acc aaa gca aag gcc aaa gcc aag aaa ggg aag gga aag gac Lys Thr Lys Ala Lys Ala Lys Ala Lys Gly Lys Gly Lys Asp <210> 69 <211> 408 <212> PRT <213> Homo sapiens <400> 69 Met Ile Pro Gly Asn Arg Met Leu Met Val Val Leu Leu Cys Gln Val Leu Leu Gly Gly Ala Ser His Ala Ser Leu Ile Pro Glu Thr Gly Lys Lys Lys Val Ala Glu Ile Gln Gly His Ala Gly Gly Arg Arg Ser Gly Gln Ser His Glu Leu Leu Arg Asp Phe Glu Ala Thr Leu Leu Gln Met Phe Gly Leu Arg Arg Pro Gln Pro Ser Lys Ser Ala Val Ile Pro

Asp Tyr Met Arg Asp Leu Tyr Arg Leu Gln Ser Gly Glu Glu Glu

| Glu | Gln | Ile | His 100 | Ser | Thr | Gly | Leu | Glu 105 | Tyr | Pro (| Glu A | arg P 1 | ro A. | la S | er |
|------------|------------|--------------|------------|-------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|------------|--------------|------------|
| Arg | Ala | Asn 115 | Thr | Val | Arg | Ser | Phe 120 | His | His | Glu | Glu I | lis I 125 | eu G | lu A | sn |
| Ile | Pro 130 | Gly | Thr | Ser | Glu | Asn 135 | Ser | Ala | Phe | Arg | Phe 1 140 | Leu I | Phe A | sn I | eu, |
| Ser 145 | | Ile | Pro | Glu | Asn 150 | Glu | Ala | Ile | Ser | Ser 155 | Ala | Glu : | Leu A | arg I | Leu 160 |
| Phe | Arg | Glu | Gln | Val 165 | | G1n | Gly | Pro | Asp 170 | Trp | Glu | Arg | Gly I | Phe 1 175 | His |
| Arg | : Ile | . Asr | 11e | | Glu | Val | Met | Lys 185 | Pro | Pro | Ala | Glu | Val 190 | Val | Pro |
| Gly | 7 His | s Let 199 | | e Thr | · Arg | ; Lei | Lei 200 | ı Ası | Thr | · Arg | Leu | Val 205 | His | His | Asn |
| Va | 1 Th | | g Tr | p Gl | u Thi | Pho 21 | e As; | p Va | l Sei | r Pro | Ala 220 | Val | Leu | Arg | Trp |
| Th | | g Gl | u Ly | s Gl | n Pr 23 | | n Ty | r Gl | y Le | u Ala 239 | a Ile | Glu | Val | Thr | His 240 |
| Le | u Hi | s Gl | n Th | ır Ar 24 | | r Hi | s Gl | n Gl | у G1 25 | n Hi: 0 | s Val | Arg | : Ile | Ser 255 | Arg |
| Se | er Le | eu Pi | ro GI | ln Gl | y Se | er G] | ly As | sn Tr | p Al | a Gl | n Lei | ı Arg | g Pro | Leu | Leu |

Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg Arg

280

260

275

270

| Arg | Ala | Lys | Arg | Ser | Pro | | His | His | Ser | Gln | Arg | Ala | Arg | Lys | Lys |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 290 | | | | | 295 | | | | | 300 | | | | |

Asn Lys Asn Cys Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val 320 315 310 305

Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr 335 330 325.

Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr 350 345 340

Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile 365 360 355

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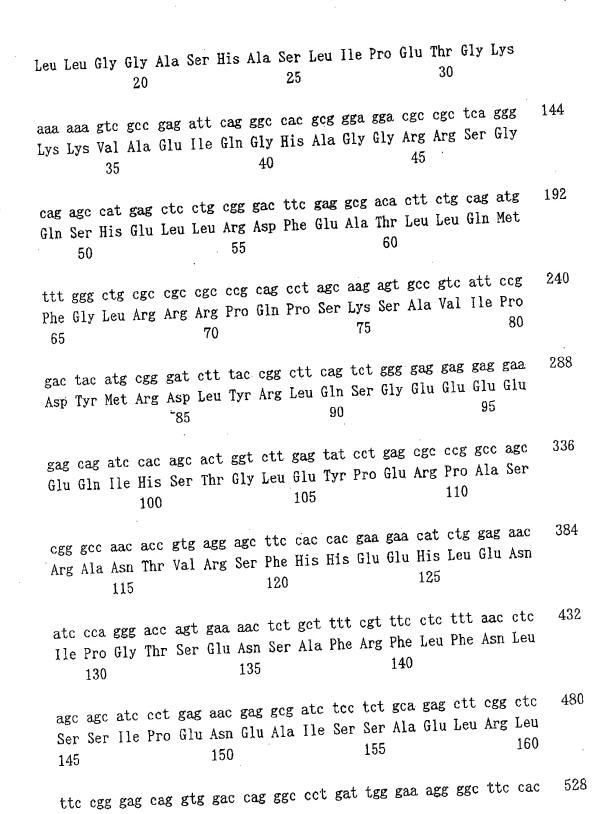
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| Phe Arg Glu Gln Val Asp Gln Gly Pro Asp Trp Glu Arg Gly Phe His 165 170 175 | |
|---|-----|
| cgt ata aac att tat gag gtt atg aag ccc cca gca gaa gtg gtg cct Arg Ile Asn Ile Tyr Glu Val Met Lys Pro Pro Ala Glu Val Val Pro 180 185 190 | 576 |
| ggg cac ctc atc aca cga cta ctg gac acg aga ctg gtc cac cac aat Gly His Leu Ile Thr Arg Leu Leu Asp Thr Arg Leu Val His His Asn 195 200 205 | 624 |
| gtg aca cgg tgg gaa act ttt gat gtg agc cct gcg gtc ctt cgc tgg Val Thr Arg Trp Glu Thr Phe Asp Val Ser Pro Ala Val Leu Arg Trp 210 215 220 | 672 |
| acc cgg gag aag cag cca aac tat ggg cta gcc att gag gtg act cac Thr Arg Glu Lys Gln Pro Asn Tyr Gly Leu Ala Ile Glu Val Thr His 225 230 235 240 | 720 |
| ctc cat cag act cgg acc cac cag ggc cag cat gtc agg att agc cga Leu His Gln Thr Arg Thr His Gln Gly Gln His Val Arg Ile Ser Arg 245 250 255 | 768 |
| tcg tta cct caa ggg agt ggg aat tgg gcc cag ctc cgg ccc ctc ctg Ser Leu Pro Gln Gly Ser Gly Asn Trp Ala Gln Leu Arg Pro Leu Leu 260 265 270 | 816 |
| gtc acc ttt ggc cat gat ggc cgg ggc cat gcc ttg acc cga cgc cgg Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg Arg 275 280 285 | 864 |
| agg gcc aag cgt agc cct aag cat cac tca cag cgg gcc agg aag aag Arg Ala Lys Arg Ser Pro Lys His His Ser Gln Arg Ala Arg Lys Lys 290 295 300 | 912 |
| aat aag aac tgc cgg cgc cac tcg ctc tat gtg gac ttc agc gat gtg | 960 |



| Asn Lys Asn Cys Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val 305 310 315 320 | |
|---|------|
| ggc tgg aat gac tgg att gtg gcc cca cca ggc tac cag gcc ttc tac Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr 325 330 335 | 1008 |
| tgc cat ggg gac tgc ccc ttt cca ctg gct gac cac ctc aac tca acc Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr 340 345 350 | 1056 |
| aac cat gcc att gtg cag acc ctg gtc aat tct gtc aat tcc agt atc Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile 355 360 365 | 1104 |
| ccc aaa gcc tgt tgt gtg ccc act gaa ctg agt gcc atc tcc atg ctg Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu 370 375 380 | 1152 |
| tac ctg gat gag tat gat aag gtg gta ctg aaa aat tat cag gag atg Tyr Leu Asp Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met 385 390 395 400 | 1200 |
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